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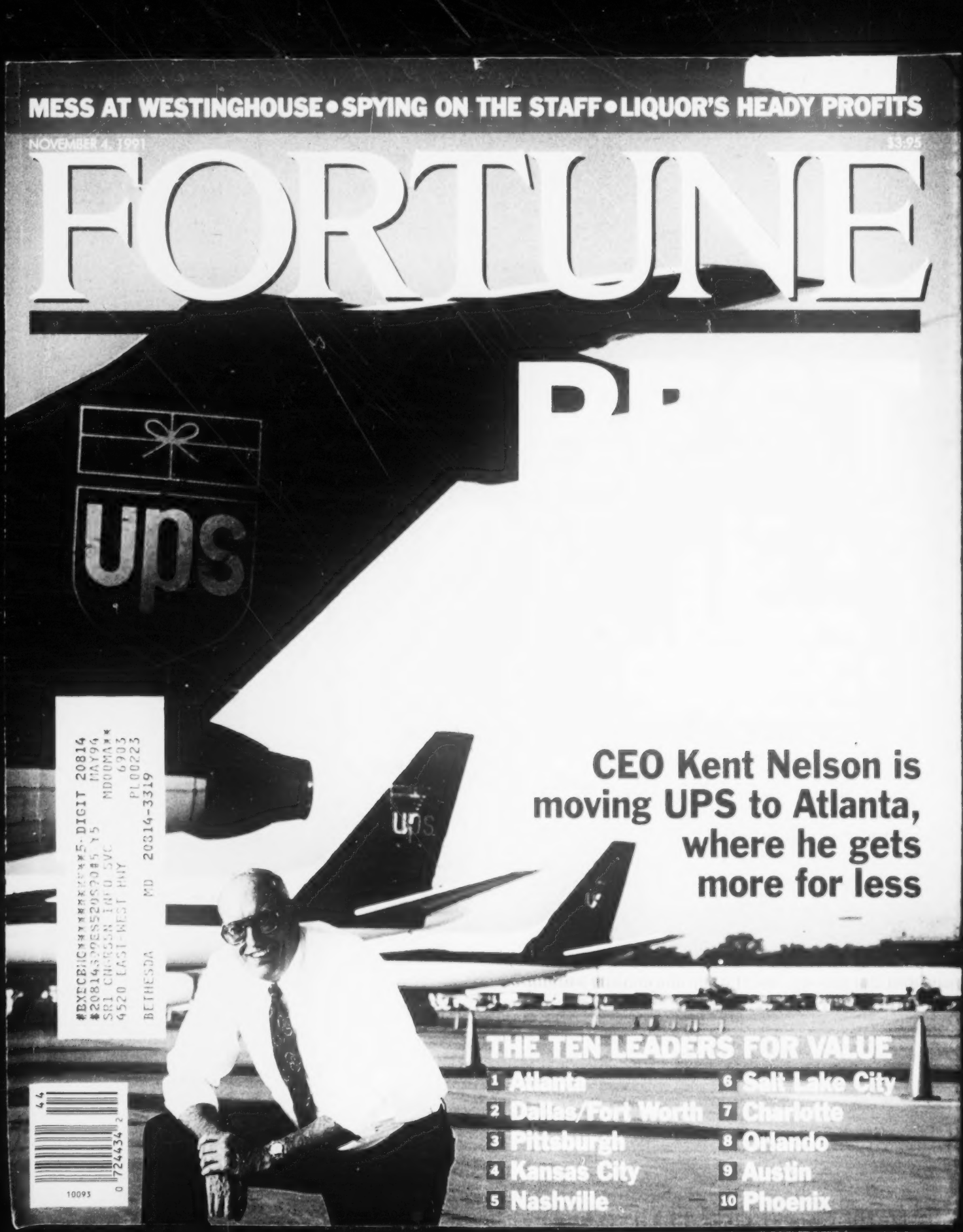


CEO Kent Nelson is moving UPS to Atlanta, where he gets more for less

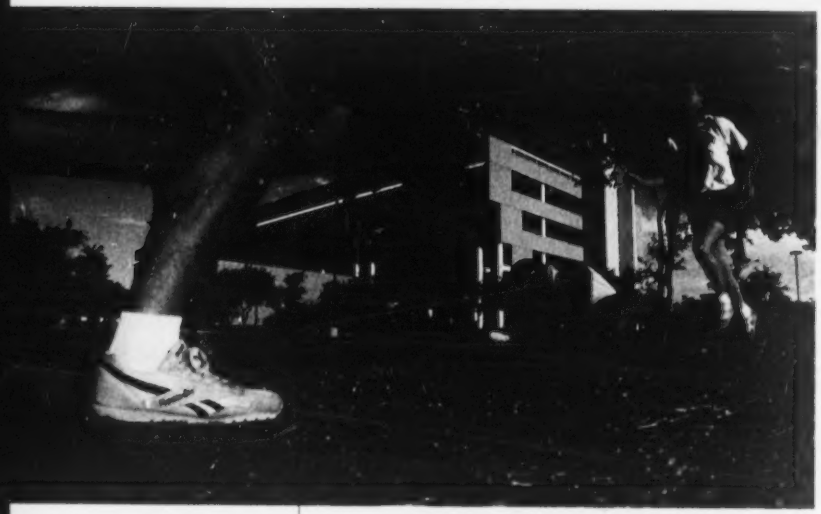
THE TEN LEADERS FOR VALUE

1. Atlanta
2. Dallas/Fort Worth
3. Pittsburgh
4. Kansas City
5. Nashville
6. Salt Lake City
7. Charlotte
8. Orlando
9. Austin
10. Phoenix

NOVEMBER 4, 1991

VOL. 124, NO. 11

FORTUNE



In ultra-smug Austin, *true* Texans would rather listen to the price of oil drop than sit through a presentation by a Dallas booster. PAGE 52

ABOVE: Lunchtime joggers at high-tech consortium MCC in Austin, the town with the most relaxed lifestyle of the top ten—and the least expensive. Photograph by Robb Kendrick.

COVER: After exploring his options, CEO Kent Nelson moved UPS headquarters from Greenwich, Connecticut, to Atlanta, the top-ranked city on our list. Photographed by Robb Kendrick at Atlanta's airport.

CITIES/COVER STORIES

THE BEST CITIES FOR BUSINESS 52
With companies squeezing costs tighter than ever, locations that give you the most for your money are hot. Here's where to find America's outstanding values. *by John Huey*

THE TOP TEN 64
And in first place—Atlanta.

THE REST OF THE MAJOR CITIES 73
How 40 other big cities stack up.

WHAT'S THEIR SECRET? 86
Three unlikely locales have produced a remarkable crop of industry-beating FORTUNE 500 companies. Folks who live there take it in stride. *by Laurie Kretchmar*

CALIFORNIA FACES THE GOODBYE WAVE 89
Frenzied growth and runaway costs are tarnishing its future. Many businesses are leaving. But America's trendsetter may yet show others how to cope. *by Nancy J. Perry*

CORPORATE PERFORMANCE

BEHIND THE MESS AT WESTINGHOUSE 93
The grand old electric company is shorting out on bad loans made by its credit subsidiary. The crisis may deepen before it gets better. *by Peter Nulty*

COMPANIES TO WATCH 102
Garbage gives off the sweet smell of success at Mid-American Waste Systems, an Ohio company that is expanding in part through acquisitions that add to existing routes. *by Shelley Neumeier*

Also: Komag and Employee Benefit Plans.

POLITICS & POLICY

REPORT CARD ON BUSHONOMICS 105
Critics claim Bush lacks a domestic economic strategy. Nonsense. He has ambitious goals and is relying on market forces to meet them. The real question: Is it working? *by Louis S. Richman*

COMPETITION

MA BELL AND SEVEN BABIES GO GLOBAL 118
U.S. telecommunications companies are rushing abroad, where the big growth in the industry is. Successful strategies include picking good partners and sticking to basics. *by Andrew Kupfer*

MANAGING

HOW COMPANIES SPY ON EMPLOYEES 131
Done right, monitoring performance by computer or telephone improves service, productivity, and profits. Done wrong, it just bugs the staff—in both senses. *by Gene Bylinsky*

"The crisis at Westinghouse began as a hangnail and turned into gangrene."

PAGE 93

"We were hearing about subtle harassment. The individuals didn't know what they could do about it."

PAGE 145

"This is the decade in which Apple moves from being a wild card to playing in the mainstream."

PAGE 151

"Good bankers are like family doctors."

PAGE 159

"What we're competing about is not to cut our price lower than the competitor. It is actually to keep the price higher."

PAGE 172

"I learned early in life that all I was going to have was what I was willing to work for."

PAGE 199

MANAGING

DEALING WITH SEXUAL HARASSMENT 145

Smart companies are educating employees about what it is—not always an easy call—investigating allegations fast, protecting victims, and penalizing offenders. *by Alan Deutschman*

TECHNOLOGY

APPLE'S JAPANESE ALLY 151

PowerBook 100, its new notebook computer made by Sony, shows why alliances are hot in the PC business. *by Brenton R. Schlender*

TECHNOLOGY TO WATCH 155

The lightest man-made solid makes superb insulation, among other things. *by David Kirkpatrick*

MONEY & MARKETS

BANKERS WHO BEAT THE BUST 159

In an industry shaken to its wing tips, these managers prosper. Their secrets: superior customer service, generous employee incentives, and knowing the local market. *by Terence P. Paré*

INNOVATION

PRODUCTS TO WATCH 168

A sheet music database with 20,000 titles, computer bugs (the real thing), and more. *by Alison Sprout*

SELLING

LIQUOR PROFITS RUNNETH OVER 172

We're drinking less, but the big liquor sellers are earning more. They understand global brand management and joint ventures so well that falling demand doesn't faze them. *by Bill Saporito*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12

Corporate write-offs pile up, B-schools quiz Japanese students, where the new jobs are, office woes East and West, IBM-Microsoft feud, and more.

FORTUNE FORECAST 21

States' new policy of tax and don't spend gives little back to the economy. *by Joseph Spiers*

Economic Intelligence: A credit-crunch quiz, sticky gasoline, and who's buying those exports.

PERSONAL INVESTING 25

Picking the stars of tomorrow from today's new stocks. *by Terence P. Paré*

Also: How to juice up your retirement income, where to put your rainy day money now, and Portfolio Talk with Harold A. Mackinney Jr., chairman of Fleet/Norstar Investment Advisers.

LETTERS TO FORTUNE 47

FORTUNE PEOPLE 199

Heinz's CEO weds a Greek heiress, an encore for IBM's Little Tramp, and more. *by Andrew Erdman*

OFFICE HOURS 201

Is the boss-as-coach just a stalking-horse for a truly new concept—the unleader? *by Walter Kiechel III*

BOOKS & IDEAS 205

Don Petersen of Ford doesn't kiss and tell, but he also doesn't have much to say. *by Alex Taylor III*

KEEPING UP *by Daniel Seligman* 207

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EDITOR'S DESK

Todd May Jr., dressed for retirement, and his successor as chief economist, Vivian Brownstein

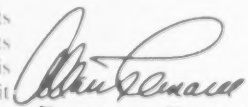
WITH HIS omnipresent pipe and studious manner, Todd May Jr. could be the economist from central casting. Looks don't deceive. We take pride in being the only magazine that produces its own economic forecast, and it's based on a model that May refined over four decades at FORTUNE. Now he is retiring and turning the chief economist's portfolio over to his longtime deputy, Vivian Brownstein. Between tennis matches (he has a deceitful backhand) and travels with wife Peggy (herself an economist), he will still serve as our consultant.

A Kansan trained in statistics and economics at Northwestern and New York University, May pioneered in the practical use of econometrics after World War II. FORTUNE hired him in 1952, passing over another promising candidate who hasn't done badly, Alan Greenspan. Like Greenspan, May is no ideologue: He distrusts dogmatic approaches that try to explain the economy by focusing on a single factor like the money supply. Instead, he worships at the shrine of fact, delving into odd corners of business where the numbers give early warning of how the real world is changing.

On a shooting range where no one hits the bull's-eye every time, May's forecasts have been remarkably accurate. But his friends at FORTUNE will most miss his wit and boundless generosity. He has patiently led generations of us through daunting statistics and kept us from economic naivete. Charles Burck, our economics editor, sums it up: "Todd has been a wonderful teacher to us all."

Brownstein shares May's nuts-and-bolts approach. Before joining us in 1960, she worked for the Federal Reserve and the Committee for Economic Development. She was instrumental in computerizing our forecasting model after the advent of PCs. Readers who have followed her insightful work over the years know she is a worthy successor.

Full Disclosure Dept.: John Huey, who wrote "The Best Cities for Business," is a native of Atlanta, picked No. 1, and lived for five years in Dallas, No. 2. But they won fair and square, and we have survey data to prove it. "If anything, my living there put these cities at a disadvantage," says Huey. "I have often been accused of treachery to the cause and collaboration with the enemy—the Yankee media. I plead guilty only to trying to put some of the outrageous boastings of these places into proper perspective."



EXECUTIVE EDITOR

FORTUNE (ISSN 0015-8259). Published biweekly, with three issues in May and October, by The Time Inc. Magazine Company. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Joseph A. Ripp, Treasurer; Harry M. Johnston, Secretary. Subscriptions: U.S. possessions, one year (27 issues) $49.95; Canada, one year (27 issues) $53.73. Second-class postage paid at New York, NY, and at additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer inquiries: FORTUNE, P.O. Box 60000, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000. © 1991 The Time Inc. Magazine Company. All rights reserved. FORTUNE is a registered mark of The Time Inc. Magazine Co.
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The Time Inc. Magazine Company GST #R12278 1974.

American Express CEO James Robinson III bit a $265 million bullet.

CORPORATE WRITE-OFFS ARE PILING UP

■ With its surprise $265 million after-tax charge against third-quarter earnings, **American Express** joins a growing list of companies taking write-offs. Amex's move was soon followed by **Westinghouse Electric** and **Allied-Signal**. They took giant pretax write-offs of $1.68 billion and $880 million, respectively (see table for other examples). Patricia Shangkuan, a vice president at Goldman Sachs, says write-offs taken by S&P 500 companies in the first half of 1991 added up to 50% more than in the same period last year.

In some cases, write-offs suggest that gutsy management is axing costs, profits be damned. And, of course, new CEOs like Allied-Signal's Lawrence A. Bossidy often take big hits to earnings so that the company looks more profitable later on during their watch.

Postponing write-offs can mean that a company is continuing to carry assets on its books at an inflated value (the business generated by those assets no longer warrants it) and that earnings are inflated too, waiting for a hit that will come later if not sooner. Says David Rocker, head of a New York City investment partnership bearing his name: "There has been very loose accounting, which has allowed companies to keep assets on the books for too long. The overall profitability of corporations has been greatly overstated." Adds Paul Rohan, a project manager for the Financial Accounting Standards Board, a private group that sets guidelines for corporations: "It just seems an abuse when assets are carried for more than they're worth."

American Express CEO James D. Robinson III was caught off guard by the troubles with its Optima card unit that led to the write-off. Some observers have criticized the company for not enforcing stricter controls on deadbeat accounts. But others praised Amex for taking the charge quickly once the problems were exposed and say that recent management shuffles should prevent a repeat.

Not that Robinson, or his investors, can rest easy. The company must take aggressive steps to protect its core charge card business from rivals like Visa and MasterCard while stemming the tide of merchants who don't like Amex's high fees and won't accept its card. Allied-Signal, a diversified company in aerospace and auto parts, will trim down by dumping four of its 40 businesses, cutting management layers, and eliminating 5,000 jobs. As expected, Chief Executive Bossidy, formerly vice chairman of **General Electric**, seems to be imposing a GE-like remake on Allied. See Corporate Performance for more on what drove Westinghouse to take its write-off. **– Antony J. Michels**

HITS THAT COMPANIES ARE TAKING (After-tax figures)	
AT&T	$2.6 billion
Occidental Petroleum	$2.0 billion
Continental Airlines Holdings	$1.8 billion
Unisys	$1.2 billion
Digital Equipment	$1.0 billion
Columbia Gas System	$765.0 million
Union Pacific	$575.0 million
General Dynamics	$566.9 million
Bethlehem Steel	$550.0 million
Burlington Northern	$442.0 million

FORTUNE CHART

B-SCHOOLS QUIZ JAPANESE STUDENTS

■ Getting young managers into U.S. business schools is big business in Japan, where a stateside MBA offers not only prestige but also a peek at the inner workings of America's largest corporations via case studies. Each year, scores of Japanese companies like **Daiwa Securities**, **NEC**, and **Toyota** select a handful of elite young employees for an all-expenses-paid stint at Harvard and other top schools. However, even before the students make their formal applications, their employers often pick up a $3,000 tab for a three-month course offered by cram schools where would-be students learn their first lesson in U.S. marketing—how to sell themselves.

Some such crammers, or *yobiko*, teach their would-be MBAs how to get through required standardized tests like the GMAT and the English proficiency exam. The biggest and most successful *yobiko*: Tokyo's Institute of Foreign Study. Its founder and president, Masao Nakano, boasts that his alumni have won places in many top U.S. B-schools.

And so they have. But similar-sounding essays and wide gaps between some students'

These students got into Harvard squarely.

OFFICE WOES EAST AND WEST

■ Compared with their U.S. and European counterparts, Japanese office workers consider themselves unproductive, poorly paid, and overworked. That's one finding of the first global survey of middle managers on down conducted by pollster Louis Harris for **Steelcase**, a Grand Rapids furniture maker. One big surprise is the Japanese fear of layoffs. The survey suggests that Japan's vaunted cradle-to-grave security only exists at larger corporations.

Overall, Americans are more satisfied than their Japanese and European peers (see table). But that doesn't mean they're rip-roaring happy. In fact, when asked if the quality of job life has declined, 26% said yes. In a similar 1978 U.S. poll, only 12% thought so. Fear of layoffs is growing among U.S. office workers too. Only 56% think their jobs are safe, compared with 63% in 1988 when Harris first posed the question. The Harris company interviewed 3,707 people in 15 countries for the new poll. **–R.T.**

OFFICE WORKERS RATE THEIR JOBS

Percent of those who . . .	U.S.	EC	Japan
are very satisfied with their work	43%	28%	17%
are proud of their company's products and services	65%	37%	35%
say the pay is good	44%	26%	15%
believe management is honest and ethical	40%	26%	16%
feel they can contribute significantly to the company	60%	33%	27%
believe doing a good job greatly helps them achieve their life goals	53%	65%	31%
think management is sensitive to family needs	35%	19%	21%
try to do it right the first time	67%	40%	33%
work too many hours	21%	31%	33%
feel safe from layoffs	56%	56%	50%

FORTUNE TABLE: SOURCE: LOUIS HARRIS AND ASSOCIATES

Digital Equipment, which have laid off thousands in the recession. Aries now employs 97. Customers include **Ford Motor**, which contracted with the company in 1989 to provide customized software for designing pistons and other engine parts. Says CEO Larry McArthur, 49, an alum of **IBM** and smaller companies, who founded Aries seven years ago: "If you can solve a strategic need, big companies will find money for you, even during bad times."

Economist David Birch, CEO of Cognetics, a Cambridge research firm, predicts continued hiring by firms like Cayman and Aries. His news isn't as good for small businesses more dependent on the sluggish U.S. economy. Their job growth has slowed more than 50% since 1989. Says Birch: "High-tech firms view the world as their market from day one. That's not the case for dry cleaners, real estate agents, and automobile dealers." **–R.T.**

METER MAIDS CRIMP GLOBALIZATION

■ It looks like a close relative of a 1929 Model A Ford, but it's actually brand-new, handmade in England, and priced at $100,000. Meet **Asquith Motor Carriage**'s commercial van. After successful runs in Germany, Italy, Morocco, and Japan, the vehicle is about to make its U.S. debut.

The 425 vehicles around the world belong to subsidiaries of **McDonald's**, **Colgate-Palmolive**, **Barclays Bank**, and **Source Perrier**, among others. They use them to deliver goods in a show-offy way or as mobile sales stands. **Coca-Cola**, which has an Asquith in Japan (see photo), reports that the carriage attracts three times more people—and potential customers—at soccer games and concerts than the company's conventional vans.

This month an Asquith will hit California. The owner: Baileys Irish Cream, a subsidiary of **Grand Metropolitan**, the British food and drinks giant. Crispin Reed, a former manufacturer of reproduction furniture who co-founded Asquith in 1981, made a recent visit to New York City to line up new buyers there, but he found something tougher than customer resistance. Says he: "Evading these meter maids is our most difficult task." **–R.T.**

THE IBM-MICROSOFT FEUD CONT'D

■ They're at odds again. This time the scrap centers on the multimedia personal computer, or MPC, the marriage of the PC with CD-ROM, quality sound, and animation.

IBM has been conspicuously absent from the MPC Marketing Council, a 12-member organization that includes not only **Microsoft** but also **Tandy** and **Fujitsu**. The group recently introduced products that bear MPC's logo and adhere to standards set by the council a year ago.

IBM's response to the MPC specification? "It's a red herring," says Peter Blakeney, manager of market support for IBM's multimedia computers.

This reaction comes as a surprise to Microsoft CEO Bill Gates, who claims that IBM has been "very supportive" of the MPC Council's effort to define multimedia. But Blakeney says IBM decided not to join the MPC Council because it believes that the group's specification is too slow to meet

Costumed customers sip sodas in Japan.

THE BEST CITIES FOR BUSINESS

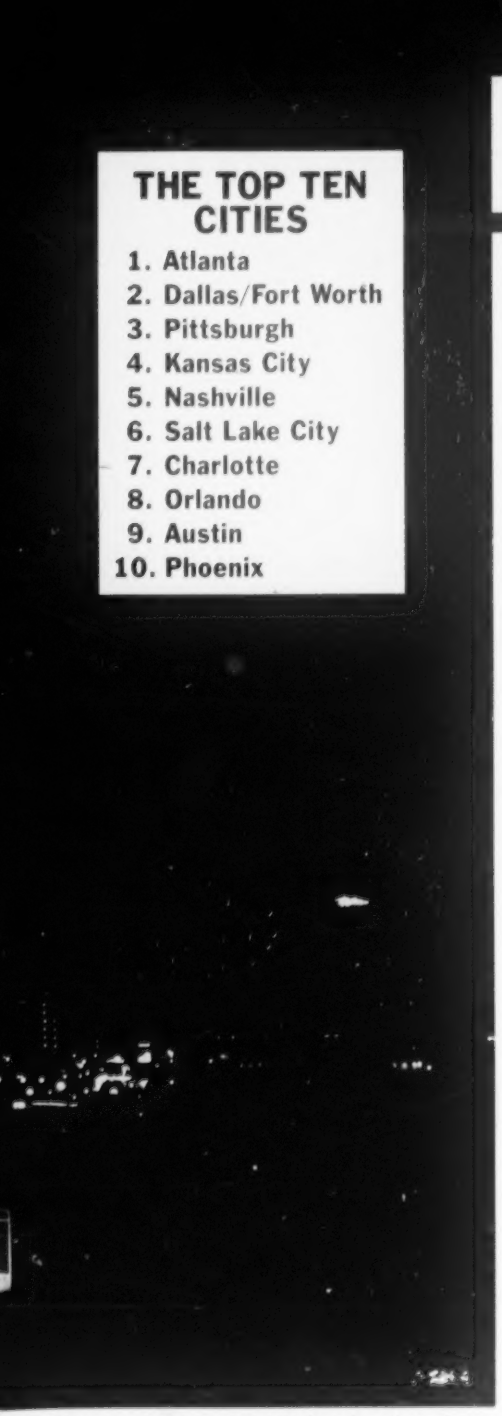
With companies squeezing costs tighter than ever, locations that give you the most for your money are hot. Here's where to find America's outstanding values. ■ *by John Huey*

Growing, restless, endlessly self-promoting, and all about making a buck: Atlanta is in an economic slowdown, which makes it all the more eager for your business.

PHOTOGRAPHS BY MICHAEL SCHWARZ—GAMMA LIAISON

THE TOP TEN CITIES

1. Atlanta
2. Dallas/Fort Worth
3. Pittsburgh
4. Kansas City
5. Nashville
6. Salt Lake City
7. Charlotte
8. Orlando
9. Austin
10. Phoenix



Office space is in oversupply, housing a bargain.

costs of labor, facilities, utilities, construction, and taxes. In fine-tuning the top ten, FORTUNE editors also drew on interviews with dozens of business leaders in many of the cities and with experts, including MS&B consultants and other authorities.

What's on Atlanta's balance sheet? The main liabilities are a high crime rate and notably poor public schools—yet the city was a blowout winner in the survey of executives. MS&B's Gerard says the survey muffled hometown boosterism—and struck a balance between perception and reality—by separating respondents' satisfaction with their own cities from their opinions of other cities. Atlanta stood out in both measures. It was by far the most popular choice among outsiders, and its executives had a more favorable opinion of their town than did those of any other place in the top ten except Kansas City. As for costs, Atlanta is the 15th-least-expensive city among America's 50 largest. That combination of quality and moderate cost was the best of the bunch, leading to Atlanta's No. 1 ranking.

The attributes executives most demand in a city are simple and sensible. They are, in order:

- A flexible, high-quality work force.
- Proximity to markets.
- A strong local pro-business attitude.
- A good public education system.
- Convenient air service to key cities.
- Costs—housing, labor, facilities, and taxes.
- An efficient highway system.
- A whole host of intangibles amounting to "quality of life."

While companies are looking harder for savings these days, they are not willing to sacrifice these attributes to lower their costs. So the top ten for value is not just a bargain basement honor roll. The five least expensive cities in the top 50—Birmingham, San Antonio, Jacksonville, Memphis, and Norfolk—all missed the top ten for value because executives didn't rate them highly enough on quality.

The two top-ranked cities are once-booming, now-surviving service economy capitals that have always ranked high on FORTUNE's list. Like Atlanta, Dallas Fort Worth is a moderate cost area (16th least expensive) with high crime and poor schools. (Bear in mind that while the MS&B survey encompasses metropolitan areas rather than core cities, problems of those core cities tend to taint the image of an entire area.) One advantage these two share over many cities is familiarity: if you haven't been to a convention in Dallas or Atlanta, you've no doubt passed through their mega-airports.

Another favorable factor: Both places are a little more eager for your business these days, Atlanta having finally been hit by an economic slowdown and Dallas still trying to shake off the Texas crash of the Eighties. "Dallas has been through a gut-wrenching experience, financially and socioeconomically," says Joseph Musolino, vice chairman of NCNB Texas, formerly First Republic. "But now that we're coming out of it we're healthier because we're more linked to the national economy." Vacant office space and stagnant job growth may spell bad news for businesses dependent on the Atlanta or Dallas economies, but to the prospective outsider they spell better value today than in the heady days gone by.

ALREADY headquarters to 19 FORTUNE 500 and Service 500 companies, Atlanta has quieted the competing crowd with several recent monster home runs in the game of economic development. The snaring of the 1996 Summer Olympics has powered a quantum boost in overseas image and should eventually stop Japanese visitors from asking for directions to the casinos (they think they're in Atlantic City).

Several recent corporate headquarters relocations mean cash on the barrelhead today. Holiday Inn's North American operation is shifting to Atlanta from Memphis; Saab is transplanting its U.S. base to Atlanta from Connecticut. Some of the city's most visible existing headquarters companies—Coca-Cola, Turner Broadcasting,

Relaxing after work in the Southern boomtown

Home Depot—have forged ahead or at least held their own in a troubled national economy.

Dallas Fort Worth—home to 31 FORTUNE 500 or Service 500 companies—has in recent years lured J.C. Penney and Exxon headquarters to town, and the city hopes to become the center of Mexican-U.S. trade should a North American free-trade pact become reality. Kent Foster, president of GTE's telephone operations, moved his outfit to the Dallas area in

GTE's Kent Foster in Las Colinas, near the Dallas airport: "It's close to everything—it makes life easy."

1989. "A central geographic location was critical to us," he says, "and the local government leaders here treat you like customers and make sure your needs are met."

BUSINESS MAY love Atlanta and Dallas, but lots of other people don't. For FORTUNE's two top cities, some critics reserve the kind of scorn that New York filmmaker Woody Allen heaps on Los Angeles ("a city where the only cultural advantage is that you can make a right turn on a red light"). To them, such new cities—with all their glass and concrete and sprawl—are formless blobs of synthetic culture, trying but failing to achieve the cultural cohesion of Boston or San Francisco. The *Economist* has called Dallas the ugliest city in North America, while the *Wall Street Journal* characterized Atlanta as "an archipelago of shopping malls and condominiums with an atrophied downtown, snarled traffic, and a fading sense of community."

To which the objects of this spirited derision have responded with even more vigorous boosterism. Atlanta and Dallas are probably the two best image marketers in America. If Atlanta could suck as hard as it can blow, say folks down in the snooty coastal Georgia city of Savannah, it would be a port city. In ultra-smug Austin, *true* Texans would rather listen to the price of oil drop than sit through a presentation by a Dallas booster. Fort Worth says *it* is where the West begins, and Dallas is where the East peters out. Maybe it's the newness of these cities. Their society can be nouveau, pretentious, and tacky, which somehow makes people of old means in genteel, paint-chipped places like Little Rock and the Mississippi Delta feel as though they can look down on them.

All these high-minded knocks on Atlanta and Dallas are fair enough—if you don't have to work for a living. But if you do, few places are more opportune over the long haul. What they lack in refinement, they overcompensate for with energy, mostly directed toward turning a buck. "It's hard to define why a person or a city or a company has charisma," says George Berry, a former Georgia commissioner of industry, trade, and tourism. "But with Atlanta I think it's because folks know this is where you can come and make money. That's what Atlanta represents: success, newness, energy, and the profit motive." Yes, Atlanta and Dallas are synthetic cities, but that is what suits them for the 21st century, in which the economy is certain to be driven by synthetic services supported by such synthetic industries as telecommunications and information technology.

In ultra-smug Austin, *true* Texans would rather listen to the price of oil drop than sit through a presentation by a Dallas booster.

Unlike most major, shall we say organic, cities, which grew up on natural harbors or at intersections of rivers or atop piles of coal and oil, neither Atlanta nor Dallas has the faintest natural raison d'etre. Both sprang up as residue from the currents of commerce. They started as railroad towns: Atlanta was called Terminus because it was where the tracks ended, and local leaders in Dallas paid the railroad to come 40 miles out of its way. Ever since these synthetic beginnings, both cities have been trying to talk the rest of the world into joining them, primarily for the purpose of doing business. As early as 1895—only 30 years after Sherman burned it to the ground—Atlanta attracted 1.9 million people to its own version of a World's Fair, the Cotton States and International Exposition, a far more impressive feat for its day than whatever the 1996 Olympics turns out to be.

TO FEED THE RAILROADS in both cities, highways had to be built, and they were; when interstates came along, Atlanta and Dallas were natural places for them to intersect, and they did, bringing over-the-road trucks with them. Both cities foresaw the future of air travel and built airports that expanded until they redefined the whole concept, becoming—along with Chicago—hubs to which you flew regardless of your final destination. Atlanta is home to Delta, Dallas to American. Southern native son Jimmy Carter deregulated international gateways, and now jumbo jets from Lufthansa, Swissair, KLM, British Airways, JAL, and others swoop down over the piney woods and mesquite prairies onto the runways outside Atlanta and Dallas.

When package delivery giant United Parcel Service set out looking for a new home—driven from Connecticut by housing prices—its choice soon narrowed to three cities: Atlanta, Dallas, and Baltimore. With more than

18,000 commercial air trips a year out of headquarters and expansion designs on the European market, the company calculated that it could save two man-years of travel time annually by picking Atlanta over Dallas/Fort Worth.

In a thorough selection process, 12 top UPS executives took an anonymous tour by chartered plane of the three finalist cities. Then CEO Kent Nelson asked each to give him a written recommendation of his first choice. All 12 chose Atlanta, says Nelson, who admits that his own first choice going into the exercise was Dallas. In the end, he says, "I think it was the trees and the rolling hills. They reminded everybody of Connecticut."

TRAINS AND TRUCKS and planes helped make Atlanta, but as 20th-century industrial evolution softened—and telecommunications links took on the status of railroads in the 19th century—both cities knew instinctively what to do. Atlanta and Dallas have become significant centers for the telecommunications industry, Atlanta in particular. When British Telecom announced it would open a North American unit to serve multinational corporations, it said Atlanta was the logical choice because it has 29 fiber-optic telephone paths, vs. only eight in New York. No problem if they need more: Atlanta is always eager to dig up its streets for progress. It is AT&T's third-largest employment center, with over 19,000 jobs, and is headquarters for Bell South, with more than 11,000. GTE, Sprint, Northern Telecom, and MCI account for another 6,000. Many of the same companies provide thousands of jobs in Dallas as well.

For all its success, Atlanta is annoyed to look over its shoulder and see a smaller, hungrier boomtown springing up in its own image and in its own backyard: Charlotte, N.C. If the MS&B survey turned up any little city that might, this is the one. The fourth-cheapest city in the top ten, Charlotte drew favorable scores from residents and outsiders and beat Atlanta for pro-business attitude.

Once a sleepy stock-car-racing town whose main contribution to American culture was Jim and Tammy Bakker, Charlotte owes much of its current credibility with American business to one man: Hugh McColl, the take-no-prisoners chairman of what will likely become, through Patton-esque takeovers the nation's fourth-largest bank, NCNB (soon to be NationsBank). "McColl's attitude is Charlotte's attitude," says Ray Shaw, the former president of Dow Jones, who moved to Charlotte to run American City Business Journals, a chain of regional business newspapers. "He's tough. He's optimistic. And he knows how to get a job done." Whether by jingoistic design or divine irony, the diminutive, brash Charlottean now controls—and has renamed after his company—two of the banks that were most associated with Atlanta and Dallas in their earlier go-go years: C&S in Atlanta and Republic Bank in Dallas.

In both cities it has been a bitter pill to swallow, this financial colonization by upstart Charlotte. As a lifelong capital colony, Atlanta probably handles the invasion of North Carolina banks with a little more grace than the Texans do. NCNB, Wachovia, and First Union have bought three Atlanta banks, leaving only one locally controlled name-brand bank (SunTrust) and making it tougher for Atlanta to call itself the South's financial capital with a straight face. But at least Atlantans sold their banks more out of greed than desperation. Dallas bankers not long ago were more arrogant than Los Angeles junk bond dealers, and they fell just as hard. Today, incredible as it seems, the Dallas skyline boasts not a single indigenous major bank. Dallasites try to be polite about it, but many still spit sand when they try to say NCNB—much less NationsBank.

For all its old money, the reborn Pittsburgh is focused on economic development and hospitality to outsiders.

No such Johnny-come-lately jealousy has afflicted the banking scene in Pittsburgh, where the name Mellon may not be as catchy as NationsBank but still has quite a bit of what the marketers call trademark equity. Home to two of the nation's top 25 banks and 15 other FORTUNE 500 or Service 500 companies, Pittsburgh has more than its share of weighty corporate cachet: Westinghouse, PPG, H.J. Heinz, Alcoa, Sony, Sony? Yes. After searching the U.S. for a place to build its picture-tube plant, Sony chose Pittsburgh, a city that ranked near the top in nearly every category of the MS&B survey—availability of high-quality labor, pro-business attitude, education, affordable housing, overall satisfaction of its residents. The category where it ranked poorly was effect of a city on a company's image.

NCNB's Hugh McColl has altered Charlotte's skyline and attitudes.

AND FOR THOSE who remember the smoky, carbon-black, shot-and-beer steel town of just a little more than a decade ago—the one Frank Lloyd Wright recommended abandoning—no image could be more out of date. For starters, today's Pittsburgh is actually beautiful. Its sturdy old skyline is nicely complemented by a restrained new one. Framed as it is by Mount Washington and the watery conflux where the Monongahela and the Allegheny form the Ohio, the downtown is one of America's most European in appearance. When the city

Pittsburgh plays up high tech, like Carnegie Mellon's robots . . .

was in danger of going to its grave with the steel industry in the early Eighties, the town's venerable old-money crowd dug into its deep foundation pockets and made sure that Pittsburgh emerged as an American city with a first-rate quality of life.

"I think the Nineties are going to be the era of the big little city," says Frank Cahouet, chairman and CEO of Mellon Bank and a transplanted California banker from Security Pacific and Crocker. "Pittsburgh is an appealing place to live because it has the amenities of a small city but the cultural benefits and business environment of a lot of large cities."

Cahouet and others stress that, for all its old money, the reborn Pittsburgh (pop. two million) is focused on economic development and the hospitality to outsiders that game requires. "We lost 60% of our industrial base and more than 100,000 heavy manufacturing jobs," recalls Wesley von Schack, chairman and CEO of Duquesne Light Co., Pittsburgh's electric utility. He moved there from Vermont in 1984. "With those kinds of numbers it wasn't hard to get people focused on economic development." Drawing heavily on the technical resources of Carnegie Mellon University and the University of Pittsburgh, the city has rebuilt employment around high-tech manufacturing, medical, and biotechnology jobs. The city is happy with modest growth. Von Schack says, "If you don't boom, you don't bust."

Similarly conservative views prevail in Kansas City. Another more traditional burg, its survey results reveal an extraordinary gap between the way resident executives feel about it (they *love* it) and the opinions of outsiders (it doesn't come up much). "Kansas City doesn't brag. It's a quiet town, gentle, not pushy," says Betsey Solberg, executive vice president of Fleishman-Hillard, a public relations firm. If that sounds a little like a Hallmark greeting card, well, Hallmark is the town's biggest privately owned employer and one of the companies that call the shots. Another is Marion Merrell Dow laboratories, the pharmaceutical giant partly created by self-made billionaire Ewing Kauffman, or "Mr. K.," who owns the Royals baseball team and heads a foundation that supports drug prevention programs, stay-in-school projects, self-esteem courses, and more than 1,000 disadvantaged students in college.

"All kinds of businesses are welcome here," says Kauffman, "as long as they learn the principles of social responsibility under which we operate. A corporation owes more to the community than just jobs. To be specific, 3% of their profits should go to charity. Things come up that need attention. Social problems, floods. Business has to do its part, and here we do. We've got the Hall Family Foundation [started by the owners of Hallmark], the H&R Block Foundation, and the Greater Kansas City Community Foundation." Kauffman says he's "especially proud of the voters of Kansas City [70% white] for electing a black mayor" and helping bring the community together.

That mayor, Emanuel Cleaver, says, "We're the only major city that's really out front struggling to do something about public education." The claim may be hyperbole, but K.C. is certainly the only city in the country investing some $600 million in capital improvements to its inner-city school system. And even though the expenditures were ordered by a federal court in a desegregation suit brought by Cleaver and others before he became mayor, the initial results are eye-popping. The brand-new $32 million Central High School, built in an inner-city black neighborhood, attracts a student body that is 25% white. The magnet school offers a computer for every student, robotics training, the largest indoor swimming pool in Missouri, and a Jesuit-inspired curriculum that includes Greek, Latin, and Olympic sports training. With the school just opened, it's too early to judge results.

Transplants to Kansas City love to talk about the work ethic. "I've worked on both coasts and in Atlanta," says Tom Sprott, a general manager for IBM, "and I've never seen the values toward getting the job done that I see here. There's really no compari-

. . . while Kansas City offers robotics study and much else in an impressive new inner-city school.

son." Kansas City has suffered labor problems in the past, but Bob Dineen, president of Marley Co., which has plants in Louisville, Memphis, Houston, and other cities, says, "That labor reputation is 15 years out of date. We have fewer problems here than anywhere else. You get a full day's work in Kansas City."

Each of FORTUNE's remaining top ten brings to the table a different combination of attributes that add up to value:

- Phoenix is strategically located near the dense Southern California market and offers a high-quality work force at much lower costs than California.
- Orlando is relatively inexpensive, right in the center of one of the country's fastest-growing markets.
- Austin is the least expensive of the top ten and has the most relaxed lifestyle. Though somewhat isolated, its high-tech orientation and the University of Texas make it attractive for a variety of technology operations.
- Salt Lake City continues to enjoy an excellent reputation for its labor force along with low costs and a notably low crime rate.
- Nashville is perhaps the sleeper on the list, a newcomer to the top ten and a city likely to take off in years to come. Why? "Location, location, location," says MS&B's Karen Gerard. "It is well positioned to serve markets in the South, Midwest, and East; three interstate highways intersect there, and it is developing into a major hub for American Airlines."

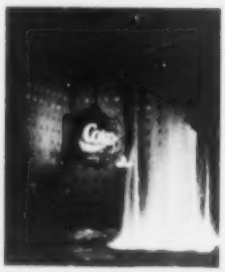
Nashville is perhaps the sleeper on the list, a newcomer to the top ten and a city likely to take off.

The new emphasis on value should not suggest that American business is on the verge of abandoning all its traditional capitals. New York, through a combination of size, culture, and concentration of power, remains America's one true international city and a bargain compared with Tokyo, Paris, and several others. Los Angeles is the world's entertainment capital and retains important ties to Mexico and the Pacific Rim. San Francisco, if you can afford it, offers an alluring blend of charm and metropolitan sophistication. Like England, there will always be a Boston. For a true metropolis with a central location, Chicago is top dog. For Latin America, fly Miami. But in the cost-conscious Nineties, the top ten for value will continue to give all of these cities, and each other, a good run for their money. F

THE TOP TEN CITIES

Rankings on access to quality labor and on pro-business attitude come from Moran Stahl & Boyer's survey of executives in America's 50 largest metropolitan areas. A rank of 1 is best, and 50 the worst; duplicate rankings reflect ties. We and MS&B conducted extensive interviews and visits. The average U.S. manufacturing salary is $26,700; for clerical jobs it is $18,600. The average lease rate in the surveyed cities is $21.25 per square foot.

1 ATLANTA



The most famous employer

Population 1991	2,913,797
Office lease rate	$23.50
Tax rates (max. corp. income / max. personal income)	6% / 6%
Average salaries (manufacturing / clerical)	$27,000 / $19,900
Access to quality labor	rank 17
Pro-business attitude	rank 2

The bad news: For a change, Atlanta is actually experiencing ill effects from the national economy, the worst blow having come with the shutdown of Eastern Airlines, a provider of 10,000 jobs. The good news: The slowdown makes the city more of a value than ever for business. Class A office space is abundant, and a bunch more is about to hit the market. The price of traditional luxury houses is soft; UPS says housing is roughly half what it costs in Connecticut. Air access is excellent but not cheap. Atlanta is a natural choice for reaching regional markets, and all those young workers who have flocked to the Southern boomtown still need jobs to make BMW payments. Suburban schools are fine, but many execs in the city choose private education for their kids. Crime is high. Golf is great. Atlanta has more trees than any other major city.

2 DALLAS/ FORT WORTH

Las Colinas

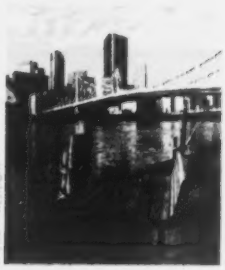
Population 1991	3,973,542
Office lease rate	$18
Tax rates (max. corp. income / max. personal income)	* / None
Average salaries (manufacturing / clerical)	$29,300 / $19,500
Access to quality labor	rank 4
Pro-business attitude	rank 13

If you can't find a good deal on office space in Dallas/ Fort Worth, you shouldn't be allowed to go to the grocery store alone. Things are stabilizing after the real estate and banking crash of the Eighties, but the city has a ton of office space and housing left on its plate. Negotiate, negotiate, negotiate. As with Atlanta, crime and schools are rough in the city, okay in the suburbs. Also like Atlanta, Dallas Ft. Worth offers terrific air access and a natural hub for regional markets. No personal income taxes steal bites from the pie. Texans score high for "pro-bidness" attitude and have lately added humility to the mix. As Dallas/ Ft. Worth recovers, it is building a diversified service economy tied more to the nation's than to the state's energy cycle, and it is well situated for Mexican-American commerce should North American trade barriers fall.

SOURCES: Reg. National Planning Data Corp. (major cities, or central business districts, Comparative Statistics of Industrial and Office Real Estate Markets, tax rates, Commercial Clearing House, wages for manufacturing, County Business Patterns, wages for clerical); BLS

*Texas imposes a franchise tax based on net worth and profits.

3 PITTSBURGH



Actually beautiful

Population 1991	2,043,118
Office lease rate sq. ft.	$20
Tax rates max. corp. income	12.25%
max. personal income	5.98%
Average salaries manufacturing	$30,300
clerical	$18,000
Access to quality labor rank	4
Pro-business attitude rank	8

The Lazarus of American cities, Pittsburgh has everything going for it but an up-to-date image. Low crime, high-quality public education, and a skilled work force add up to one of the very best values for business—especially among older cities outside the Sunbelt. Carnegie Mellon University helps attract businesses in the biotech industry. A good work ethic and a central location are especially appealing to light manufacturers such as Sony, which chose Pittsburgh as the site for its North American picture tube factory. Housing is a bargain, air is clean, and commutes are short. Cultural institutions stay healthy with heavy involvement from the old-line corporate community. Something that wouldn't happen in Atlanta: When a new building replaced Forbes Field, the outfield wall and home plate were preserved.

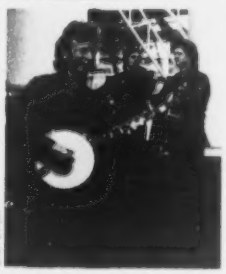
4 KANSAS CITY

World-class barbecue

Population 1991	1,586,993
Office lease rate sq. ft.	$19
Tax rates max. corp. income	6%
max. personal income	7%
Average salaries manufacturing	$28,100
clerical	$18,100
Access to quality labor rank	1
Pro-business attitude rank	10

Of all the top ten cities, Kansas City is the most beloved by its own resident executives, who rate it high in virtually every category: tax structure, labor costs, quality of labor, housing costs. Its central location appeals to many, but air connections could be better. Hallmark, one of the biggest games in town, and Marion Merrell Dow pharmaceuticals, another heavy hitter, are both strongly committed to civic involvement. Kansas City has more of a story to tell than most when it comes to the plight of its inner-city schools: it is spending $600 million to rebuild the whole system, bringing computers and exotic curricula to the ghetto. A black mayor, elected by a white majority, has launched a new era of race relations. The city deserves its reputation for great food, especially steaks and barbecue.

5 NASHVILLE



Music at the airport

Population 1991	1,003,474
Office lease rate sq. ft.	$21.50
Tax rates max. corp. income	6%
max. personal income	6%*
Average salaries manufacturing	$24,300
clerical	$18,300
Access to quality labor rank	7
Pro-business attitude rank	4

Location. Location. Location. Nashville's got it, and it is beginning to pay off. On the important criterion of proximity to markets, Nashville ranked No. 1 in the top ten. It's convenient to the South, the Midwest, and much of the Eastern seaboard. American Airlines operates a growing hub out of the city, giving it the potential to challenge Atlanta and Dallas for ease of transportation. The quality of the work force ranks high, which was instrumental in decisions by Nissan and GM's Saturn division to locate auto plants in the vicinity. Those workers command high pay. Nashville would like to build on its sizable health care industry and nurture a budding telecommunications sector. City business promoters have only recently decided to play up, rather than distance themselves from, its predominant image worldwide: Music City USA.

*Tax on unearned income.

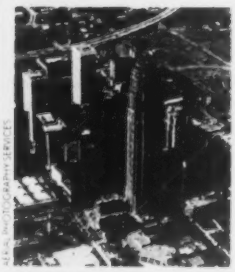
6 SALT LAKE CITY

In Temple Square

Population 1991	1,084,847
Office lease rate sq. ft.	$18
Tax rates max. corp. income	5.0%
max. personal income	7.2%
Average salaries manufacturing	$24,300
clerical	$16,700
Access to quality labor rank	2
Pro-business attitude rank	13

Everything is still clean, high quality, safe, and inexpensive in Salt Lake City, an unmistakable location of great value with a bonus for skiers—city buses go to several resorts. Taxes are moderate, literacy is extraordinarily high, crime is low, and one of America's most qualified work forces takes home wages below the national average. Nor is the place as isolated as everyone seems to think: it is within 850 miles of Phoenix, Denver, Seattle, and all major California cities, and a Delta hub gives the city more flights than most cities its size. Highways are excellent and housing costs attractive. Downsides? Utah boasts only three FORTUNE 500 headquarters, so you have to catch other execs visiting on holiday. And some residents report that Salt Lake's Mormon influence can be a bit much for the secular community.

7 CHARLOTTE, NORTH CAROLINA



The NCNB tower

Population 1991	1,184,099
Office lease rate	$18.75
Tax rates max corp. income	7.00%
max personal income	7.75%
Average salaries manufacturing	$21,900
clerical	$18,500
Access to quality labor rank	14
Pro-business attitude rank	1

What this upstart North Carolina city lacks in polish it makes up for in one all-important intangible: pro-business attitude, a category in which it ranks first, even ahead of Atlanta. Like Atlanta and Dallas, Charlotte suffers from high crime and public education woes. But thanks largely to the efforts of NCNB's acquisitive CEO, Hugh McColl, the city is gaining a reputation as a financial center that is eclipsing Atlanta's. Low manufacturing wages —a reflection of the area's furniture- and textile-making past—are attractive to industry. The city stresses its quality of life, but a major threat to that quality looms: traffic. For some reason this stock-car-racing town hasn't built an adequate highway system. Like some other smaller cities, Charlotte has a terrific back-office reputation, which helps attract such newcomers as Hearst Magazines' accounting operations.

8 ORLANDO, FLORIDA

A tourism juggernaut

Population 1991	1,110,442
Office lease rate	$21.25
Tax rates max corp. income	5.5%
max personal income	None
Average salaries manufacturing	$25,400
clerical	$17,300
Access to quality labor rank	36
Pro-business attitude rank	10

Relatively inexpensive and smack in the center of one of the country's fastest-growing markets, Orlando is Florida's boomtown answer to Atlanta and Dallas. Like the Sunbelt's big two, Orlando has convenient air service, and the reason is obvious: Disney World is America's No. 1 tourist destination. After pausing for the recession, this tourism juggernaut is expected to keep right on exploding. Wages are below the U.S. average, and, as in all of Florida, there's no personal income tax. Success has its price: Orlando ranks worst in the top ten for traffic problems. It also ranks low for cultural activities and presence of quality universities, but the Florida lifestyle gets big points. The city is a short drive from the beach and is surrounded by natural lakes and citrus groves, now transforming into residential communities.

9 AUSTIN, TEXAS

The Capitol

Population 1991	802,413
Office lease rate	$16
Tax rates max corp. income	*
max personal income	None
Average salaries manufacturing	$29,500
clerical	$17,000
Access to quality labor rank	24
Pro-business attitude rank	13

The smallest and least expensive of the top ten cities, Austin is a bit isolated and in a category of its own. Its casual Hill Country lifestyle is legendary. While lacking some elements of traditional business locations—such as proximity to markets—it has become something of an alternative Silicon Valley. Many major names—IBM, Motorola, Apple, Advanced Micro Devices, Texas Instruments—are represented there, as are hundreds of entrepreneurial high-tech companies nurtured by the University of Texas's Austin Technology Incubator. MCC and Sematech, two high-tech consortia, also call Austin home. In addition to Lake Travis, country music, and barbecue, Austin (like the rest of Texas) demands no personal income tax. A major drawback: The city lacks good nonstop airline service to many other key cities.

10 PHOENIX

Gateway Center

Population 1991	2,183,438
Office lease rate	$20
Tax rates	9.3%
	7.0%
Average salaries manufacturing	$27,700
clerical	$17,800
Access to quality labor rank	7
Pro-business attitude rank	21

Phoenix offers a combination of particularly high-quality labor at near-average costs; unionization is notably low. It boasts good schools and a large community college system to train workers. As in Atlanta and Dallas, office space is plentiful and inexpensive in the wake of Eighties overbuilding. The city is strategically located near the dense and lucrative Southern California market, but it is beginning to suffer from some of the same urban problems: traffic, air pollution, urban sprawl. New freeway construction has eased traffic, but water shortages could eventually stunt growth. When problems come up, Phoenicians like to talk about the weather: On average the sun shines 85% of daylight hours, and the average annual temperature is 72° F., which explains the proliferation of golf and other resorts.

*Texas imposes a franchise tax based on net worth and profits.

THE REST OF THE MAJOR CITIES

ALBANY, NEW YORK

State government is still about the only game in town in this Northeastern city. No wonder it's not the best place for value; clerical wages are relatively high, and manufacturing wages are above the U.S. average. Still, companies looking for attractive office lease rates may want to consider New York's capital. The well-regarded state university and a strong public school system contribute to a highly skilled labor pool.

Population 1991	878,977
Office lease rate (sq. ft.)	$16.50
Tax rates (max. corp. income / max. personal income)	9.00% / 7.88%
Average salaries (manufacturing / clerical)	$27,300 / $21,500
Access to quality labor (rank)	7
Pro-business attitude (rank)	28

BALTIMORE

Costs are a bit high compared with the national average but lower than those in other Eastern seaboard cities, making Baltimore a candidate for companies needing a site in the Washington–New York City corridor. Clerical wages hover near the U.S. average, and manufacturing wages slightly outpace the average. There's room for improvement: Survey respondents ranked Baltimore near the bottom for public education.

Population 1991	2,406,138
Office lease rate (sq. ft.)	$24.50
Tax rates (max. corp. income / max. personal income)	7.0% / 7.5%
Average salaries (manufacturing / clerical)	$28,800 / $18,800
Access to quality labor (rank)	24
Pro-business attitude (rank)	36

BIRMINGHAM, ALABAMA

For value, Birmingham has good numbers but a tarnished reputation. It is the lowest-cost city for business among America's 50 largest. Yet local survey respondents said it has the worst effect of any on a company's image. Once a one-industry town dominated by steel, Birmingham is trying to make a name as a medical center; Bo Jackson had hip surgery there. It also seeks finance-related business and telecommunications.

Population 1991	913,021
Office lease rate (sq. ft.)	$16.75
Tax rates (max. corp. income / max. personal income)	5% / 6%
Average salaries (manufacturing / clerical)	$23,100 / $16,500
Access to quality labor (rank)	48
Pro-business attitude (rank)	34

BOSTON

Time for another Boston tea party? Taxes are high, and no self-respecting business could pick Boston on the basis of cost. In addition to Massachusetts's well-known fiscal troubles, wages are lofty, and so are office lease rates and housing and facility costs. Boston is second to none for world-renowned colleges and universities, which translate into a highly educated work force. An attractive city, if you feel like paying for it.

Population 1991	3,108,786
Office lease rate (sq. ft.)	$29
Tax rates (max. corp. income / max. personal income)	9.50% / 5.95%
Average salaries (manufacturing / clerical)	$30,700 / $20,300
Access to quality labor (rank)	4
Pro-business attitude (rank)	40

BUFFALO

Troubled by a poor image and 20 years of population decline, Buffalo has nonetheless made something of a comeback. Employment in the service sector is growing, and the Canada free-trade pact has lured some new commerce to this near-the-border town. Still, before many companies shuffle here, the city will have to improve management-labor relations and its attitude toward business. It can't do much about New York taxes.

Population 1991	965,635
Office lease rate (sq. ft.)	$20
Tax rates (max. corp. income / max. personal income)	9.0% / 7.7%
Average salaries (manufacturing / clerical)	$28,200 / $16,300
Access to quality labor (rank)	30
Pro-business attitude (rank)	48

CHICAGO

It's a wonderful town even if it is windy, say those who need a Midwest presence. But costs are high. Clerical and manufacturing wages are above the U.S. average, and office lease rates are among the highest in the surveyed cities. Chicago is close to many important markets, though; it remains a vast transport hub. It also offers well-trained labor. Companies based there like it and ranked it No. 4 for providing overall satisfaction.

Population 1991	6,085,423
Office lease rate (sq. ft.)	$34.25
Tax rates (max. corp. income / max. personal income)	6.5% / 2.5%
Average salaries (manufacturing / clerical)	$29,200 / $19,700
Access to quality labor (rank)	3
Pro-business attitude (rank)	30

CINCINNATI

Procter & Gamble still dominates its hometown, but the Queen City has diversified into an office center and boasts attractive lease rates near the survey average. Cincinnati ranked No. 8 in overall satisfaction and scored high for business involvement in the community. Despite the furor over the exhibit of Robert Mapplethorpe photographs, Cincinnati has a lively cultural life. Public education gets poor marks.

Population 1991	1,461,573
Office lease rate (sq. ft.)	$22
Tax rates (max. corp. income / max. personal income)	11% / 9%
Average salaries (manufacturing / clerical)	$30,000 / $17,700
Access to quality labor (rank)	18
Pro-business attitude (rank)	31

CLEVELAND

The population is declining, but Cleveland is no longer the mistake on the lake. It boasts a revitalized riverfront with trendy shops and restaurants. New buildings rising downtown mean lease rates are slightly below average and will be for a while. Blue-collar wages exceed the average, but clerical rates fall just below. The city wins loud applause for the arts, including its ballet, an art museum, and a legendary orchestra.

Population 1991	1,826,139
Office lease rate (sq. ft.)	$20
Tax rates (max. corp. income / max. personal income)	10.9% / 8.9%
Average salaries (manufacturing / clerical)	$30,400 / $18,100
Access to quality labor (rank)	18
Pro-business attitude (rank)	13

COLUMBUS, OHIO

Columbus is not a particularly cheap place to do business, but locals love it and don't want to leave. It lacks the union-dominated heritage of such older Ohio cities as Cincinnati and Cleveland, and the state capital is a university and financial center without Boston's exorbitant costs. Office lease rates in the new downtown, which saw a lot of construction in the 1980s, are slightly below average. A new downtown mall, City Center, is a hit.

Population 1991	1,395,498
Office lease rate	$20.50
Tax rates max corp. income	10.9%
max personal income	8.9%
Average salaries manufacturing	$28,800
clerical	$17,600
Access to quality labor rank	30
Pro-business attitude rank	10

DAYTON

This manufacturing area, birthplace of the cash register and NCR, is trying to diversify by courting service, high-tech, and aerospace companies. Reasonable office lease rates should help. Nearby Wright-Patterson Air Force Base is the area's largest employer and growing as the Air Force consolidates resources there. An auto town with high manufacturing wages but below-average clerical wages, it ranks low on public education.

Population 1991	956,290
Office lease rate	$17.75
Tax rates max corp. income	11.15%
max personal income	9.15%
Average salaries manufacturing	$32,300
clerical	$17,400
Access to quality labor rank	36
Pro-business attitude rank	36

DENVER

Attractively low office lease rates—38% below average—show that the Mile-High City hasn't fully recovered from the energy slump. Companies that need an impressively educated labor force would do well to look here at the edge of the Rockies, where many workers are underemployed. But they don't come cheap; wages are above average. Denverites love their city for its superb access to sports and outdoor recreation.

Population 1991	1,633,348
Office lease rate	$13.25
Tax rates max corp. income	5.2%
max personal income	5.0%
Average salaries manufacturing	$30,800
clerical	$19,100
Access to quality labor rank	39
Pro-business attitude rank	31

DETROIT

The Motor City just can't shake its image as a depressed one-industry town, and its costs discourage newcomers. A low maximum corporate income tax rate isn't enough of a lure. Neither are cheap lease rates, 20% below average, because of the inner city's deterioration. Wages in manufacturing are the highest in the top 50 cities. Ranked last for business involvement in the community, Detroit needs help from corporate leaders.

Population 1991	4,383,929
Office lease rate	$17
Tax rates max corp. income	4.35%
max personal income	7.60%
Average salaries manufacturing	$36,800
clerical	$19,500
Access to quality labor rank	45
Pro-business attitude rank	46

GREENSBORO, NORTH CAROLINA

With business-pleasing low city and state taxes, this old textile town might be the place to unroll your carpet. Costs overall are moderate, and the quality of life is high. Manufacturing and clerical wages are below average, lease rates and facility costs are low, the crime rate is too, and business involvement in the community is vigorous. Local executives gave it the survey's highest marks on the criterion of a fair regulatory environment.

Population 1991	952,688
Office lease rate	$16.50
Tax rates max corp. income	7.00%
max personal income	7.75%
Average salaries manufacturing	$22,300
clerical	$18,500
Access to quality labor rank	24
Pro-business attitude rank	13

HARTFORD

Insurance industry woes and state fiscal problems have dealt a double blow to Hartford, the smallest of the surveyed cities. Costs are high. Lease rates and manufacturing wages are above the study average, the corporate income tax is stiff, and a state personal income tax has just taken effect—although angry citizens could get it repealed. Ranked last for a pro-business attitude and in the bottom ten on access to well-trained labor.

Population 1991	773,015
Office lease rate	$25.50
Tax rates max corp. income	11.5%
max personal income	4.5%
Average salaries manufacturing	$30,500
clerical	$19,600
Access to quality labor rank	45
Pro-business attitude rank	50

HOUSTON

It's still got that oilman image, but Houston is recovering and has made important strides in diversifying into high-tech and medical industries. Like other Texas locations, it has no personal income tax. Low office lease rates, a sign that Houston hasn't rebounded fully from the overbuilt Eighties, entice outsiders. Give it big points for pro-business attitude and Texas-size business involvement in the community.

Population 1991	3,324,724
Office lease rate	$15.50
Tax rates max corp. income	*
max personal income	None
Average salaries manufacturing	$31,300
clerical	$19,300
Access to quality labor rank	14
Pro-business attitude rank	8

*Texas imposes a franchise tax based on net worth and profits.

INDIANAPOLIS

You might think Indy 500, but increasing numbers of businesses think of back offices when they consider this capital, no longer Indiana-no-place. Lease rates are below average, as are clerical wages, although manufacturing wages are higher. Business leaders play an important role in this community. In the survey it fared poorly only for its lack of a well-developed mass-transit system—no surprise, perhaps, in a city that adores a fast car.

Population 1991	1,262,006
Office lease rate	$19.75
Tax rates max corp. income	7.9%
max personal income	4.4%
Average salaries manufacturing	$29,400
clerical	$17,300
Access to quality labor rank	30
Pro-business attitude rank	4

JACKSONVILLE, FLORIDA

■ Trying to leave its Navy past in the water and attract new business, Jacksonville is attracting service industries, especially back-office operations. It's where American Express, Merrill Lynch, and other major companies process paper. The town boasts low housing costs, wages, and lease rates. Like all Florida cities, it levies no personal income tax. But this port city lacks cultural activities, and it needs to spit-and-polish its image.

Population 1991	927,850
Office lease rate (sq ft)	$19.50
Tax rates (max corp income / max personal income)	5.5% / None
Average salaries (manufacturing / clerical)	$23,700 / $18,300
Access to quality labor (rank)	35
Pro-business attitude (rank)	13

LOS ANGELES

■ The City of Angels could use some divine intervention. It suffers from overgrowth, high costs, and a thicket of state regulations, particularly environmental. Manufacturers are fleeing, many to such places as Nevada, Arizona, and Texas. Office lease rates are high, as are housing and facility costs. Efficient highways? L.A. ranks last in the survey. On the sunny side, consider its strengthening economic ties to Mexico and the Pac Rim.

Population 1991	9,011,205
Office lease rate (sq ft)	$28
Tax rates (max corp income / max personal income)	9.30% / 10.05%
Average salaries (manufacturing / clerical)	$27,500 / $22,200
Access to quality labor (rank)	24
Pro-business attitude (rank)	40

LOUISVILLE, KENTUCKY

■ Not well known among outsiders, the Louisville area is diversifying, and locals praise the quality of life. It is home to seven distilleries for bourbon and other spirits and to Humana's health care headquarters, GE operations, and headquarters of KFC (formerly Kentucky Fried Chicken). Office lease rates are below average, housing is moderately priced, and companies appreciate the area's pro-business attitude.

Population 1991	953,260
Office lease rate (sq ft)	$16
Tax rates (max corp income / max personal income)	10.45% / 8.20%
Average salaries (manufacturing / clerical)	$28,500 / $16,600
Access to quality labor (rank)	39
Pro-business attitude (rank)	4

MEMPHIS

■ Low-cost Memphis wants to enter the big leagues as a competitor for Southeastern businesses. As home to Federal Express, it is already a huge distribution center. Wages, office lease rates, and facility costs are low; so is the city's overall satisfaction ranking. High-quality labor is hard to find, although the new mayor promises to strengthen city schools. Aside from a trip to Graceland, there's not a lot of culture.

Population 1991	991,935
Office lease rate (sq ft)	$14
Tax rates (max corp income / max personal income)	6% / 6%*
Average salaries (manufacturing / clerical)	$24,000 / $17,300
Access to quality labor (rank)	49
Pro-business attitude (rank)	21

*Tax on unearned income.

MIAMI/FORT LAUDERDALE

■ Gateway to Latin America, Miami offers moderate costs but a less than sunny image. Crime is high, and in overall satisfaction the city ranks 37th. Quality of the labor force is low, but then so is the cost: Manufacturing wages are the lowest of the 50 metro areas. Nearby Fort Lauderdale enjoys some of the benefits without all Miami's drawbacks. Seeking more business travelers, it has a new convention center facing the port.

Population 1991	3,247,062
Office lease rate (sq ft)	$30
Tax rates (max corp income / max personal income)	5.5% / None
Average salaries (manufacturing / clerical)	$19,200 / $18,400
Access to quality labor (rank)	39
Pro-business attitude (rank)	21

MILWAUKEE

■ Yes, beer made Milwaukee famous, but machinery is the biggest industry. Manufacturing wages are slightly above average—Milwaukee was always a union town—as are office lease rates. Ranked No. 22 on overall satisfaction, the city scores poorly for the effect it has on a business's image. But residents enjoy moderate housing costs and have access to a wide range of sporting and recreational activities, particularly on Lake Michigan.

Population 1991	1,439,264
Office lease rate (sq ft)	$23
Tax rates (max corp income / max personal income)	7.90% / 6.93%
Average salaries (manufacturing / clerical)	$28,500 / $17,900
Access to quality labor (rank)	18
Pro-business attitude (rank)	34

MINNEAPOLIS ST. PAUL

■ The Twin Cities offer well-educated employees with a strong work ethic, which helped the area rank No. 2 in MS&B's survey last year, when the emphasis was on quality labor. It doesn't fare as well with the focus on value. Corporate and personal income taxes are high, as are lease rates. Pro-business attitude is poor, but companies are deeply involved in the community. Many give at least 2% of pretax profits to charities.

Population 1991	2,504,919
Office lease rate (sq ft)	$26.75
Tax rates (max corp income / max personal income)	9.8% / 8.5%
Average salaries (manufacturing / clerical)	$32,000 / $18,200
Access to quality labor (rank)	18
Pro-business attitude (rank)	45

NEW ORLEANS

■ Mardi Gras land is inexpensive but suffers from a hangover. Office lease rates are notably low, and wages are near the average, yet the city ranked last on overall satisfaction, last on availability of high-quality labor, and last on public education. Not a single respondent in the survey mentioned it as the best city in which to operate a business—the only place to get no votes at all. Respondents also worry about crime.

Population 1991	1,232,972
Office lease rate (sq ft)	$14.50
Tax rates (max corp income / max personal income)	8% / 6%
Average salaries (manufacturing / clerical)	$27,000 / $17,900
Access to quality labor (rank)	50
Pro-business attitude (rank)	45

NEW YORK CITY

■ The Big Apple is superlative in many ways, including cost: It is America's most expensive place to do business. Tax rates are the highest, and so are office lease rates. It ranked poorly on most other cost measures as well as on crime and pro-business attitude. But in certain industries—media, the arts, investment banking—it remains top of the heap. With recent layoffs, such as those on Wall Street, high-quality labor is easy to find.

Population 1991		8,572,593
Office lease rate	sq ft	$39.25
Tax rates	max corp income	17.85%
	max personal income	12.25%
Average salaries	manufacturing	$27,700
	clerical	$22,500
Access to quality labor	rank	7
Pro-business attitude	rank	42

NORFOLK, VIRGINIA

■ Population is growing in this Navy-dominated area, which is beginning—but just beginning—to earn some respect as a low-cost, high-quality place for business. It gets low marks for the effect of the city's name on business image. Clerical wages are the lowest of the 50 cities, due in part to the large number of spouses at the military bases. The only FORTUNE 500 or Service 500 company: Norfolk Southern, the railroad.

Population 1991		1,423,207
Office lease rate	sq ft	$19.75
Tax rates	max corp income	6.00%
	max personal income	5.75%
Average salaries	manufacturing	$24,800
	clerical	$15,900
Access to quality labor	rank	30
Pro-business attitude	rank	25

OKLAHOMA CITY

■ Oklahoma's capital is trying to diversify after being sapped by the energy slump. Billing itself as "America's back-office frontrunner," it offers low costs of labor, facilities, and housing. The city and state operate some of the country's best job training programs and adult education courses, and the area is home to many colleges and universities. There's not much culture beyond the National Cowboy Hall of Fame.

Population 1991		957,776
Office lease rate	sq ft	$16.50
Tax rates	max corp income	6%
	max personal income	7%
Average salaries	manufacturing	$25,900
	clerical	$16,300
Access to quality labor	rank	14
Pro-business attitude	rank	28

PHILADELPHIA

■ The City of Brotherly Love still suffers from the image of an old, worn-out town but is promoting itself as the cutting-edge location for biomedical and pharmaceutical companies, many of which are already there. These companies attracted $16 billion of revenue last year and employ more than 50,000. Philly has moderate wages, housing costs, and office lease rates. Local executives rated it poorly on overall satisfaction.

Population 1991		4,887,417
Office lease rate	sq ft	$23.50
Tax rates	max corp income	12.25%
	max personal income	8.06%
Average salaries	manufacturing	$28,100
	clerical	$18,600
Access to quality labor	rank	24
Pro-business attitude	rank	46

PORTLAND, OREGON

■ Local executives like this West Coast city, ranking it fourth for overall satisfaction. In at least one way it resembles New England, from which its settlers came (and named it Portland instead of Boston by a coin toss): City and state taxes are high enough to worry about, even if Oregon doesn't have a sales tax. Portland ranked third for quality public education and is more environmentally pristine than California.

Population 1991		1,256,296
Office lease rate	sq ft	$20.25
Tax rates	max corp income	6.60%
	max personal income	9.62%
Average salaries	manufacturing	$26,600
	clerical	$18,600
Access to quality labor	rank	18
Pro-business attitude	rank	36

RICHMOND

■ This moderate-cost city, the capital of the northernmost right-to-work state, gets less attention than it should. Clerical wages are low, while manufacturing wages are high, thanks mainly to the tobacco industry. The city continues to develop as a financial and office center. It is home to 13 FORTUNE 500 and Service 500 companies. Richmond scores well for its lack of environmental problems and stable fiscal situation.

Population 1991		878,268
Office lease rate	sq ft	$21.50
Tax rates	max corp income	6.00%
	max personal income	5.75%
Average salaries	manufacturing	$30,800
	clerical	$16,900
Access to quality labor	rank	36
Pro-business attitude	rank	25

ROCHESTER, NEW YORK

■ Costs are on the high side and the climate is cold, but Rochester offers several attractions if you like the Northeast. Respondents ranked it No. 3 for high-quality public education, which contributes to an excellent labor force. It is home to two top universities. Office lease rates are below average, but manufacturing wages are among the highest around, in part due to established major employers such as Eastman Kodak.

Population 1991		1,005,984
Office lease rate	sq ft	$19.50
Tax rates	max corp income	9.00%
	max personal income	7.88%
Average salaries	manufacturing	$32,500
	clerical	$21,500
Access to quality labor	rank	7
Pro-business attitude	rank	13

SACRAMENTO, CALIFORNIA

■ California's capital, jokingly called Sacra-tomato because it's in farm country, boasts lower labor costs than some major California cities—yet these and office lease costs are still at or above the national average. Skiing in Lake Tahoe and big-city shopping in San Francisco are only two-hour drives from Sacramento. Losing its hick image, the city gets good marks for its education system and availability of high-quality workers.

Population 1991		1,524,017
Office lease rate	sq ft	$27
Tax rates	max corp income	9.3%
	max personal income	9.3%
Average salaries	manufacturing	$26,700
	clerical	$21,500
Access to quality labor	rank	7
Pro-business attitude	rank	36

ST. LOUIS

Here's one to watch. Ranked No. 8 for overall satisfaction, St. Louis features clerical wages below average and fairly low taxes. Manufacturing wages are high, driven up by the area's many large, old-line manufacturers, including Anheuser-Busch, McDonnell Douglas, Monsanto, Ralston Purina, and other FORTUNE 500 companies. Located near the country's center, it is a hub of transportation by air, water, and rail.

Population 1991		2,458,269
Office lease rate	sq. ft.	$25
Tax rates	max. corp. income	6.5%
	max. personal income	7.0%
Average salaries	manufacturing	$31,100
	clerical	$17,400
Access to quality labor	rank	18
Pro-business attitude	rank	21

SAN ANTONIO

The second-least-expensive city (after Birmingham) among the top 50, San Antonio is well suited for assembly operations and back-office work, which it is trying to lure. Wages are below average, and office lease rates are near rock bottom. Like other Texas cities, San Antonio levies no personal income tax, nor does the state. Housing costs are low. This out-of-the-way city scored poorly in the survey on proximity to markets.

Population 1991		1,325,003
Office lease rate	sq. ft.	$13.50
Tax rates	max. corp. income	*
	max. personal income	None
Average salaries	manufacturing	$19,500
	clerical	$16,600
Access to quality labor	rank	30
Pro-business attitude	rank	13

*Texas imposes a franchise tax based on net worth and profits.

SAN DIEGO

Like Price Club, the booming warehouse chain whose parent is based here, San Diego attracts lots of people for the relatively low costs. Facility expenses are moderate, while salaries and lease rates are just above average. But this Navy town is no bargain when it comes to housing costs or taxes. And while respondents like the quality of life, San Diego is developing the same kinds of problems that afflict overcrowded Los Angeles.

Population 1991		2,573,462
Office lease rate	sq. ft.	$23
Tax rates	max. corp. income	9.3%
	max. personal income	9.3%
Average salaries	manufacturing	$28,100
	clerical	$19,400
Access to quality labor	rank	43
Pro-business attitude	rank	42

SAN FRANCISCO BAY AREA

Home to Silicon Valley, the Bay Area is a pricey place to do business. Wages are high, as are office lease rates, housing costs, and taxes. An antigrowth philosophy places the area second to last in the survey on pro-business attitude. Residents rank it high for the many sporting and recreational activities it offers, and some believe there's just no better place to live than the Bay Area—even if it is earthquake country.

Population 1991		5,249,089
Office lease rate	sq. ft.	$24.50
Tax rates	max. corp. income	9.3%
	max. personal income	10.8%
Average salaries	manufacturing	$29,900
	clerical	$22,800
Access to quality labor	rank	24
Pro-business attitude	rank	49

SEATTLE

The capital of the Northwest faces an enviable challenge: trying to keep its growth from exploding. The city gets the highest ratings in the survey for the image it casts on resident business and scores well for its pro-business attitude. It also ranks well on management-labor relations. Office lease rates are just above average, while manufacturing wages are high, thanks largely to giant Boeing and its dozens of subcontractors.

Population 1991		2,017,587
Office lease rate	sq. ft.	$22.25
Tax rates	max. corp. income	None
	max. personal income	None
Average salaries	manufacturing	$32,400
	clerical	$18,700
Access to quality labor	rank	7
Pro-business attitude	rank	4

TAMPA

This Florida Gulf Coast city is beginning to suffer growth pains, although it still looks attractive by some measures. Tampa has low wages and near-average lease rates. It has wooed Salomon Brothers, which, despite its troubles, plans to move some back-office operations here from New York City. Yet housing isn't cheap in Tampa, public education ranks low, and high-quality labor is hard to find. Competes with Orlando for business.

Population 1991		2,112,193
Office lease rate	sq. ft.	$21.75
Tax rates	max. corp. income	5.5%
	max. personal income	None
Average salaries	manufacturing	$23,000
	clerical	$16,500
Access to quality labor	rank	43
Pro-business attitude	rank	25

WASHINGTON, D.C.

Brace yourself: Washington (including the suburbs of Fairfax County, Virginia) ranked No. 1 in the survey for overall satisfaction by local executives. Wages, lease rates, and taxes are high. Growth of the area has been rapid, though the District of Columbia proper is still a company town that suffers from serious crime. It has no representative in Congress, despite a population greater than that of Alaska, Vermont, or Wyoming.

Population 1991		3,997,780
Office lease rate	sq. ft.	$27.50
Tax rates	max. corp. income	10.5%
	max. personal income	9.5%
Average salaries	manufacturing	$30,300
	clerical	$20,400
Access to quality labor	rank	42
Pro-business attitude	rank	44

WEST PALM BEACH, FLORIDA

Just north of Miami–Fort Lauderdale, West Palm Beach is soaking up spillover growth. Far more affordable than its tonier neighbor, Palm Beach, West Palm is luring migrants from the Northeast and Midwest. Newcomers flocked here in the Eighties faster than to any of the other 50 areas. Manufacturing wages are notably high. The city ranks second for pro-business attitude and is the only Florida location to score near the top on education. F

Population 1991		894,581
Office lease rate	sq. ft.	$18
Tax rates	max. corp. income	5.5%
	max. personal income	None
Average salaries	manufacturing	$33,100
	clerical	$19,900
Access to quality labor	rank	45
Pro-business attitude	rank	2

REPORT CARD ON BUSHONOMICS

Critics claim Bush lacks a domestic economic strategy. Nonsense. He has ambitious goals and is relying on market forces to meet them. The real question: Is it working? ■ *by Louis S. Richman*

January 19, 1997. George Bush is delivering his final televised address from the Oval Office: "As Barbara and I leave the White House, my most gratifying accomplishment is to have presided over our great nation's economic revitalization. Yes, thanks to our domestic economic strategy . . .

CUT! CUT! ECONOMIC strategy? What economic strategy? As they say in Brooklyn, "fuh-geddaboudit!" Nearly three years and one recession into George Bush's presidency, his Administration appears confused over where it wants to lead the economy. Its domestic policies seem adrift. Since Bush told a cheering Republican convention in 1988 "Read my lips, no new taxes," taxes have risen by $175 billion. The man who declared in his inaugural address that the nation has "more will than wallet" to tackle its domestic problems has watched government spending steadily rise. Even if the economy were to rebound to meet the Administration's own forecast for 1992, annual growth during Bush's first term will have averaged just 1.6%. That's the slowest rate of economic expansion since the Roosevelt-Truman term ended in 1948.

A self-confessed foreign policy junkie, Bush seems dismayingly disengaged from the domestic policy fray. The President is blasted by Democrats in Congress and the pack now running for President as a man who cares more for the plight of the Kurds than for Kansas farmers and unemployed auto workers in Kalamazoo. But who wouldn't rather face Saddam Hussein? With the Republicans down 14 votes in the Senate and 101 in the House of Representatives, the White House's domestic policy initiatives are held hostage by the opposition—and theirs by his freely wielded veto. This stalemate of impotents leads a White House insider to say, "In a period of fun-

Hanging with the home boys: To show that he cares about more than foreign affairs, the President chews the fat with construction workers in Los Angeles.

PHOTOGRAPH BY DIANA WALKER—GAMMA/LIAISON

damental differences between the executive and legislative branches over the appropriate size and role of government, the first commandment of public policy is 'Above all, do no harm.'"

Yet for all the appearance he gives of diffident stewardship over domestic affairs, the President *does* have a strategy—an ambitious one, though it's not readily apparent to those who simply equate a policy with new programs and more spending. The real question: Is it working? The answer requires examining the key elements of his domestic economic policy, point by point.

. . . To think how far we've come! Next year, as we enter the sixth consecutive year of sustainable, noninflationary economic growth, the federal budget will finally be in balance . . .

THE CENTERPIECE of the Administration's economic strategy is the budget pact tortuously concluded last fall between Bush's budget director, Richard Darman, and congressional leaders. The agreement sloughed off the straitjacket of the 1985 Gramm-Rudman-Hollings Act, which imposed automatic across-the-board spending cuts when annual budget-balancing targets were missed. Instead, the new pact sets more flexible goals aimed at lopping some $300 billion off the projected rise in government outlays over a five-year period and shrinking the federal deficit to less than 1% of GNP by 1996.

To slow spending, the budget deal caps appropriations within three separate categories—defense, international, and discretionary domestic programs such as education and housing. Should Congress or the President wish to redirect outlays to pay for new programs in any of these areas, offsetting reductions must be made in existing ones. New spending that exceeds the caps must be financed on a "pay as you go" basis, effectively neutralizing one of Congress's favorite tricks—deferring the cost of new legislation through government credit guarantees.

Sticking to the budget agreement, asserts Michael Boskin, the President's chief economic adviser, will give the economy a big lift. Says he: "Reducing the level of government borrowing is the single most important thing we can do to stimulate long-run growth." But will the deal stick?

BUSH REPORT CARD

Controlling the deficit	**C**	A flawed budget deal hasn't cut spending.
Expanding trade	**A–**	Mexican free trade, *olé*; needs GATT treaty for an A.
Promoting research and high technology	**B**	Helpful tax breaks and more money for basic science.
Improving regulation	**D**	Too much costly new regulation; too little cost-benefit analysis.
Fighting poverty	**C**	Jack Kemp's good ideas aren't getting enough support.

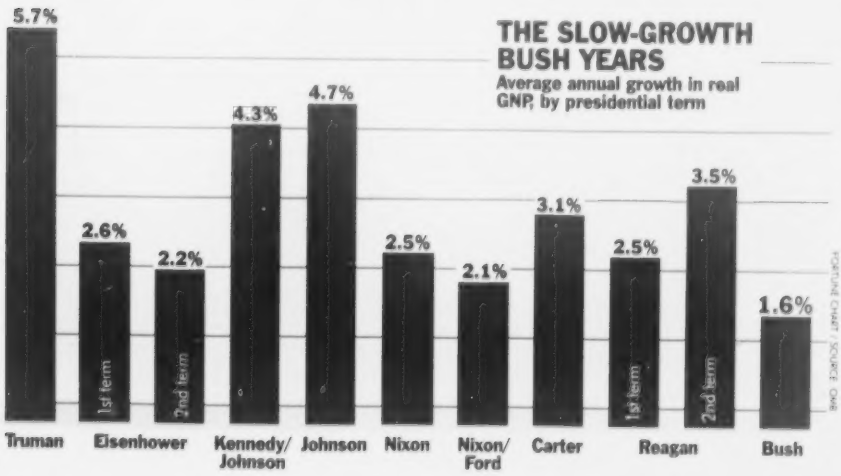
Not likely. The Bushmen have been both too ambitious and too timid in their balancing act. Discretionary spending for domestic programs—15% of all outlays—will be allowed to rise by some 7% a year after inflation until the 1994 fiscal year. But to reach its deficit reduction target by 1996, the Administration will then have to persuade Congress to chop these programs back by an unprecedented 4.6% in fiscal 1994 and 7.5% in fiscal 1995—$27 billion in two years.

And that's before tackling spending on entitlements, such as Medicare and Medicaid, which are exempt from the caps. The "mandatories," as they're called within the Beltway, have been increasing on automatic pilot for decades and now account for 52% of all government outlays, up from 33% in 1970. Bush persuaded Congress to agree to trim the *rise* in entitlement spending by $100 billion by 1996. To make serious headway, however, he will have to cut deeply into the more than $500 billion of entitlement benefits—more than 80% of the total—that goes to the middle class.

The Administration made a faint start in the 1992 budget by proposing increases in co-payments for Medicare recipients whose annual income exceeds $125,000 and reducing agricultural subsidies to "farmers" with over $125,000 in yearly nonfarm income. Together, those fairly painless cuts will save the government just $1.6 billion over the next five years.

What about defense savings? Bush's recent announcement of sharp unilateral reductions in America's nuclear arsenal has revived Democrats' hopes of paying for new domestic programs with lower military spending. But completely eliminating the biggest ticket programs—the Strategic Defense Initiative and the B-2 bomber, both of which Bush wants to keep—would save only $9 billion over the next two years. If Bush can't hold Congress to its promised deep domestic cuts after fiscal 1993, look for another budget summit soon after the next presidential election—and for yet another postponement of a balanced budget.

. . . Thanks to our steadfast resolve, we are enjoying the fruits of a vastly expanded global trading system under the new GATT treaty. Barriers between the U.S. and Mexico are being eliminated, and a single Western Hemi-



And the loser is . . . guess who? Bush's results are based on government estimates for 1991 and 1992.

sphere free-trade zone may soon stretch from the tundra of Alaska to Tierra del Fuego . . .

BUSH IS RIGHT in recognizing that, as the U.S. becomes bound more tightly to the global economy, efforts to liberalize trade must move to the forefront of his drive to stimulate domestic growth. The President and his chief trade negotiator, Carla Hills, have deftly deflected protectionist sentiment at home and broadened support for lowering trade barriers abroad. Prospects that Mexico will soon join the U.S. and Canada in an enlarged North American free-trade zone, a remote possibility when Bush took office, now appear excellent. Says Robert Z. Lawrence, an economist at Harvard University's Kennedy School of Government: "This Administration has proved a much stronger practitioner of liberalized trade than its predecessor."

The big missing piece of Bush's trade strategy is the still unconcluded new General Agreement on Tariffs and Trade (GATT) treaty, which he hopes to sign by year's end. The sticking point is the reluctance of the European Community to end its costly and trade-distorting agricultural subsidies. Bush has stood firm—perhaps too firm given the tough opposition Europe's leaders face from well-organized farm lobbies—by insisting on their total elimination. The Administration maintains that anything less might cause underdeveloped nations, dependent on agricultural exports to earn scarce hard currency, to retreat from a new GATT.

There's a lot riding on Bush's success. A study prepared jointly by economists in Hills's Office of the U.S. Trade Representative and at the President's Council of Economic Advisers estimates that under the new GATT's broader rules, world GNP would expand by some $5.25 trillion over the coming decade—and U.S. GNP would be 3% higher than it would otherwise have been by 2000.

. . . By resisting the temptation to micromanage the economy through a meddlesome industrial policy, we have demonstrated that the federal government can be a constructive partner with the private sector . . .

"This Administration has proved a much stronger practitioner of a liberalized trade environment than its predecessor."

THE PRESIDENT is determined to steer clear of a full-blown industrial policy, but he is edging closer to the border by backing a big increase in generic, precompetitive science and technology research. By 1994 the Administration will have increased the annual budget of the National Science Foundation, the agency that distributes research funds to government and university labs, to some $4 billion—double the 1987 level. More of those dollars will be directed to such key areas of future competitiveness as high-performance computing, biotechnology, and advanced materials research. "There has been a fundamental shift in thinking by this Administration to support civilian science research," says Daniel F. Burton Jr., executive vice president of the Council on Competitiveness, a Washington policy research group supported by high-technology companies. "They are not just open to but solicitous of industry input."

To help industry choose its own winners and losers, the Administration last year more than doubled, to 20%, the value of corporate research and development tax credits. Partly as a result of past reductions in the worth of these credits, growth in corporate R&D spending has fallen since the mid-1980s, from an annual rate of 7% after inflation to less than 2%. This year Bush wants to make favorable tax treatment of R&D permanent. Research by the Kennedy School's Lawrence and Martin Baily, an economist at the University of Maryland, projects that the new incentives will boost businesses' R&D budgets by 4% a year in real terms.

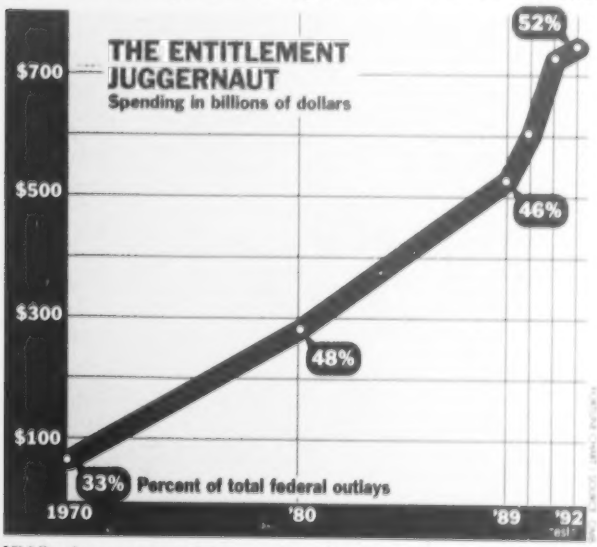
. . . My Administration has unshackled America's banks from archaic Depression-era regulations and given newfound confidence to our financial institutions . . . But we haven't pursued economic growth at the expense of a cleaner environment or by ignoring the millions of Americans who suffer physical and mental disabilities . . .

GEORGE BUSH had two visible jobs as Vice President: to attend funerals of deceased foreign heads of state and to spearhead the Reagan Administration's efforts to curb heavy-handed government regulation. He performed reasonably well at both. Which is all the more reason to regret that President Bush—who now spends so much time with *living* foreign statesmen—risks becoming the re-regulation President.

Give him credit for acting quickly in his Administration's first 100 days to push regulators to speed up shutdowns of insolvent banks and S&Ls. The Bush Treasury also deserves one cheer for proposing, this year, a systematic overhaul of regulations to make banks more competitive. The Treasury initiative, now through the meat grinder of Congress's banking committees and awaiting a vote by both houses, would allow commercial banks to offer a broader range of financial services such as underwriting securities, to open interstate branches, and to permit nonfinancial corporations to own bank holding companies.

Give the President low marks for paying too little attention to the cost of new regulation. The killer is his new Clean Air Act, a

REPORTER ASSOCIATE *John Labate*



Middle-class programs that are tough to trim—Social Security, Medicaid, and Medicare—account for most of the rise in entitlement spending.

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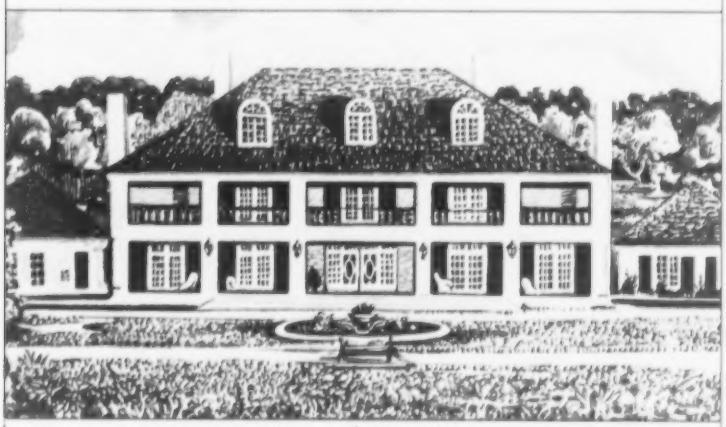

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classic example of government "command and control" environmentalism run amok. The roughly 20-page proposal that Bush sent to Congress in 1990 emerged from the world's greatest deliberative body at close to 1,000 pages. By the time federal, state, and local environmental regulators finish translating the act's provisions into standards for industry and government to meet, the page count could swell into the millions.

The Administration did manage to reduce the act's costs. By threatening a veto, Bush got Congress to accept 95% of the targeted reduction in air-polluting emissions that it originally wanted. The Council of Economic Advisers estimates that this modification cut the cost of the Clean Air Act from over $50 billion a year to about $22 billion. Still, notes economist Robert W. Crandall, an expert on regulatory policy with the Brookings Institution, "whether the Gosplan-like provisions of the act buy us environmental protection worth anything near the cost is dubious at best."

Other big regulatory costs loom. The Department of Labor is busily writing guidelines that business must meet beginning next July, under the President's 1990 Americans with Disabilities Act. How much will it cost? No one knows. According to the Census Bureau, there are some 43 million Americans with disabilities. Depending upon how many qualify as "disabled" under the new law, regulatory policy experts at the National Association of Manufacturers worry that it could become the most expensive piece of legislation ever passed. Says an NAM official, with unintended irony: "No one is against enhancing the civil rights of the disabled, but we are going into this blind."

The Bush Administration is also dithering in its efforts to improve government risk assessment and cost-benefit analysis. To help regulate the regulators, Jimmy Carter created, and Ronald Reagan expanded, the Office of Information and Regulatory Affairs (OIRA) within the Office of Management and Budget. While OIRA cannot overrule agency regulations, it can suggest changes that improve their efficiency and help lower their cost. Economist Robert Hahn of the American Enterprise Institute estimates that by the late Eighties about half of all major regulations reviewed by OIRA were returned to the agencies with recommendations for cost-saving revisions.

During Bush's term, however, OIRA has been all but dormant. The office has not had a director since late 1989. Lacking an effec-

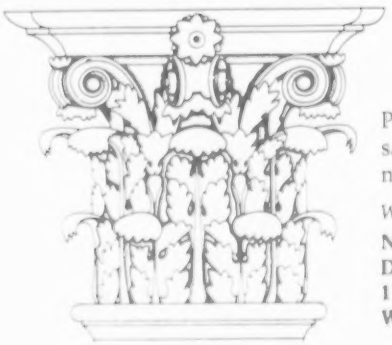
tive watchdog, concludes former Reagan budget director James C. Miller III, who now heads Citizens for a Sound Economy, a conservative grass-roots lobbying group, has weakened regulatory cost-benefit analysis throughout the government. Says he: "The public has little idea of the economic trade-offs it is making for the purported benefits of more government rules. Bush has given a new lease on life to overly eager GS-13s [mid-level career bureaucrats]."

. . . My greatest satisfaction is that we have helped enable all Americans to share in the growth and prosperity we have created. We have made it easier for young middle-class families to buy a new home. And we have made an excellent start in extending opportunity to our poorest citizens by breaking with the dependency and despair of a Big Brother welfare bureaucracy . . .

BLUDGEONED by congressional Democrats who have seized the "fairness" issue, the President's "kinder, gentler" rhetoric has become material for late-night comedians. Lost in the laughter have been several initiatives to help lower- and middle-income American families. For example, the Administration has sensibly coordinated—and increased—funds spent on drug treatment, mental health counseling, job training, and emergency housing assistance in a single program called Operation Bootstrap, aimed at helping low-income families get off welfare rolls. To lighten the costs of child care for working couples and single-parent heads of household, the President is increasing an earned-income tax credit by some $21 billion over the next five years. And in his latest budget, Bush proposed allowing first-time home buyers to tap, without penalty, up to $10,000 in savings held for seven years in individual retirement accounts to help make their down payments.

The most ambitious Bush social policy change would be a fundamental shift in federal programs for the poor. Quarterbacked by Housing and Urban Development Secretary Jack Kemp, the new approach consists of a congeries of efforts lumped under the title "empowerment." Its objective: to curb the vast Great Society antipoverty bureaucracy that keeps the poor trapped in welfare dependency. Instead Kemp wants government to help bring impoverished Americans into the economic mainstream.

Two engines—housing and the economic



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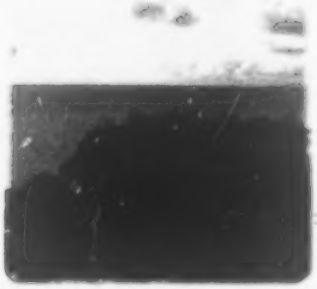

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development of inner cities and depressed rural areas—power empowerment. To give poor families greater control over their communities' well-being, Kemp wants to turn public housing over to tenant-managers and prepare them for privatization. Dubbed Project HOPE (an acronym for Homeownership and Opportunity for People Everywhere), the program would rehabilitate and sell off units in some 150 public housing projects. Small-scale examples where this has already happened in Washington, St. Louis, and Chicago show the approach works. If Kemp gets the $1 billion a year he's asking for, HOPE would create a million new low- and moderate-income homeowners by 1996.

HUD is also stepping up a federal housing voucher program instead of adding to the inventory of inner-city blight by funding the construction of new public housing. The vouchers supplement the income poor families spend on rent and give recipients greater choice over where they live, enabling more to leave depressed areas in search of jobs. Says Kemp: "We want to empower people, not real estate developers."

FAR LESS LIKELY is the goal, elusive for decades, of attracting businesses and jobs to America's poorest communities. To break the cycle of crime and poverty that blocks investment, Kemp is trying to warm up an old idea—"enterprise zones." He'd like to establish 50 of these targeted areas, which would be eligible for a package of federal tax incentives backed by a local commitment for enhanced public services, by 1996.

The Administration's empowerment plans are facing a tough uphill slog in Congress, a battle that even the gung-ho Kemp will lose without help. Already Congress has chopped his request for a 29% increase next year in federal housing vouchers to 9%. Says Kate Walsh O'Beirne, a domestic policy expert at the Heritage Foundation, a conservative Washington research group: "This program needs a megaphone, and only the President has a big enough voice to get the message across." On empowerment, as on so many of his proposed domestic policy initiatives, Bush has been missing in action. Until he makes his Administration's programs more passionately his own personal cause, his domestic policy record will be mediocre.

. . . Good night, and may God bless America.

Oh, and good luck! F

MA BELL AND SEVEN

U.S. telecommunications companies are rushing abroad, where the big growth in the industry is. Successful strategies include picking good partners and sticking to basics. ■ *by Andrew Kupfer*

TELECOMMUNICATIONS news roundup: In the space of just a few weeks early this fall, cellular phones went on line in St. Petersburg and Prague. The Mexican telephone company started taking orders for service by phone instead of making customers stand in line for hours. A new cellular network began competing with the state monopoly in Japan. And anyone in China well enough off to have a TV set and a satellite dish could start tuning in to—ta-*da*!—MTV.

What these diverse global developments have in common is that all are American creations, one way or another. The first three are ventures of U.S. telecommunications companies; the fourth involves American programming beamed into Asia by a Hong Kong–owned satellite. What's more, all exemplify the newly aggressive response of U.S. telecommunications companies to foreign competition at home and abroad.

The $600-billion-a-year global telecommunications industry is changing from a gentlemen's cartel of monopolies and entrenched suppliers into a worldwide free-for-all. Why? Corporate customers are demanding global telephone networks, and the companies that build them want global profits. Developed countries are trying to encourage competition, while developing countries see communications as a prerequisite for attracting new business investment.

For U.S. companies, the main action is overseas. Spending on phone service abroad will increase anywhere from 30% to 80% a year, depending on the country, while U.S. growth stagnates in single digits. At stake are foreign purchases of telecommunications gear that will average $60 billion to $70 billion a year for the next decade—more than the total spent worldwide since Alexander Graham Bell first told Watson he wanted him. American telephone companies also need new markets to generate enough sales volume to be cost competitive in the U.S. with foreign companies—both manufacturers and service providers.

The U.S. has been a laggard in the global telecommunications battle. A 1990 Commerce Department report noted that the trade balance in telecommunications equipment went from a surplus of $1.1 billion in 1978 to a deficit of $2.6 billion ten years later. The report concluded that for the most part American companies are no longer competitive in telecommunications gear for homes and offices. It found that productivity and innovation are growing more rapidly in other countries, and that foreign companies get better financing and more government support for exports of telecommunications goods.

But that gloomy picture is starting to change. Just as the 1984 breakup of AT&T set off a scramble in the U.S., deregulation in other countries is prying open doors for American companies. U.S. equipment makers have been selling their products abroad for decades, both for the central switching offices of public telephone companies and for the private telephone systems of corporations. The freshly open attitude in many countries is making their job a lot easier. With some exceptions: GTE, for 46 years the monopoly provider of phone service in the Dominican Republic, now faces competition from a local company. Usually, though, deregulation helps.

U.S. companies are faring best abroad when they do what they do best: running telephone companies. They have had mixed

A little lobbying by Dan Quayle (with Indonesia's Vice President Sudharmono and their wives) . . .

. . . helped AT&T win a $250 million contract to replace antiquated telephone switches (below, left). At right, AT&T trains operators for the new equipment.

BABIES GO GLOBAL

results where they are least experienced: operating cable TV franchises, a business they are barred from at home but are rushing into elsewhere. The votes are still being counted on a third type of venture, the risky business of building cellular phone systems in developing countries that for years have neglected their basic phone networks. Well into the era of deregulation, the American telephone companies are just now learning the rules their multinational customers have written over the past decade: Team up with other companies that can help you, pick projects that fit with what you already do, and think local when you go global.

IN THE INTERNATIONAL arena of giant equipment makers, AT&T is America's shot. In the past year Robert Allen, its mild-mannered chief executive, has tried to turn his company into a foreign power, first by backing the Eighties-style hostile takeover of NCR, the computer maker, which has 62% of its sales offshore. Later he grandly pledged to build AT&T's foreign revenues from 16% of the total last year to 25% by 1995 and 50% by 2000 or so, not including NCR sales. He appointed Randall Tobias to the new job of vice chairman for international activities, a kind of secretary of state, with a brief to broaden AT&T's global reach.

If all this is really to presage a dashing, worldly AT&T, the strategy needs time to gel. Tobias points out that at divestiture AT&T had fewer than 100 employees based outside the U.S.; now it has 22,000 (out of 272,000 in all, not counting NCR). Yet he says: "I'd criticize us by saying we'd been making a disproportionate number of decisions in the U.S. as opposed to overseas. If I'm sitting in Bangkok or Mexico City or Amsterdam, problems look and feel different than if I'm three or four or five or six thousand miles away in New Jersey."

AT&T wants to use NCR's European sales and distribution network to push its telecommunications gear there. But until it can bend the computer maker's sales force to its purposes, AT&T's biggest scores abroad will continue to come from its Network Systems division, which makes telephone switches. AT&T is up against foreign competitors that are vigorously backed by their governments. These governments, which often run state telephone companies, offer both political support and big pools of money to finance customer purchases.

The U.S. government is willing to go to bat for its companies, but only if a single American company is after a foreign contract. (With seven regional phone companies, AT&T, and smaller competitors beating the bushes for business, that rarely happens.) Foreign governments choose the strongest-looking contestant to back; Uncle Sam won't pick winners.

When U.S. companies do get government support, it can clinch a deal. In 1988, for example, the Indonesian government solicited bids for 350,000 telephone lines of digital switching capacity and demanded easy financing. Indonesia wouldn't even look at a company's bid unless it could offer a 25-year loan at 3.5% interest, with a seven-year grace period before any payment became due. AT&T's vice president of government affairs, Randolph Lumb, says: "Those terms are beyond the scope of any corporation, especially for a project of that magnitude": up to $250 million over a four-year period. The deal was vital to AT&T—not just for the quarter of a billion, but for the chance to build a long-term business in one of Asia's most promising markets. *continued*

REPORTER ASSOCIATE *Jessica Skelly von Brachel*

MAJOR AMERICAN DEALS ABROAD

COMPANY Date/Venture	VALUE[1] (millions)	DESCRIPTION
AMERITECH and BELL ATLANTIC **September 1990**/Acquired Telecom from New Zealand government	**$2,460**	Along with two local firms, assumed ownership of New Zealand's state telephone company, including cellular and directory services.
NYNEX **July 1990**/Awarded 11 cable franchises in Britain	**$1,100**	Will provide local telephone service and cable TV. The deal will make Nynex the largest cable franchise owner in Britain.
SOUTHWESTERN BELL **December 1990**/Acquired controlling interest in Telmex of Mexico	**$953**	Will manage and modernize Mexico's telephone system. The consortium includes France Telecom and Grupo Carso of Mexico.
PACIFIC TELESIS **December 1989**/Awarded a national cellular license in Germany	**$500**	The consortium, led by Mannesmann AG, will build and operate the second digital cellular system in Germany, to compete with Deutsche Bundespost.
US WEST **December 1989**/Awarded 14 cable franchises in Britain	**$300**	US West holds a minority interest in each of the franchises. Most will provide telephone service as well as cable TV.
AT&T **November 1990**/Awarded contract for switching equipment in Indonesia	**$250**	Building 350,000 lines of digital switching capacity for the state telephone system. The deal included a U.S. government-backed 25-year loan at 3½%.
NORTHERN TELECOM[2] **March 1988**/Awarded contract to supply switching equipment in Japan	**$250**	Only non-Japanese supplier of switching equipment to NTT. U.S. subsidiary initiated deal and made equipment. To date, 900,000 lines of capacity installed.
US WEST **December 1989**/Awarded license for communication network in Britain	**$240**	The consortium, which includes Thorn EMI, Northern Telecom, and Deutsche Bundespost, will develop personal communication network for pedestrians.
BELL SOUTH and MOTOROLA **February 1989**/Awarded cellular license in Argentina	**$220**	Bell South leads a consortium, including two Argentine companies, that built the first privately owned cellular network in South America.
BELL ATLANTIC and US WEST **November 1990**/Awarded cellular license in Czechoslovakia	**$80**	Joint venture with the state telephone company to build and operate cellular and data networks and modernize the basic telephone network.

[1] Sums represent contribution of U.S. participants over life of project. [2] Company is incorporated in Canada.

FORTUNE TABLE

The value of such a project was not lost on Washington. AT&T won the support of the Commerce, Treasury, and State departments, as well as the White House. The government agreed to provide financing through the Export-Import Bank. Then came the lobbying. Vice President Dan Quayle visited Indonesia to meet with government officials. According to the *Far Eastern Economic Review*, AT&T had the backing of the eldest daughter of Indonesian President Suharto; that helped parry rival NEC of Japan, which had retained a company owned by Suharto's youngest son. George Bush appealed directly to Suharto. The AT&T bid succeeded.

Tobias hopes that U.S. government involvement will continue to help U.S. telecommunications companies win global market share. In September he made a lobbying trip with Quayle to Nigeria, which has 119 million people and only 350,000 phone lines.

Like a vine whose shoots crumble a brick wall over time, some U.S. companies are finding that pure persistence helps break down barriers. Motorola, which makes semiconductors and wireless phones, opened a Japanese office as long ago as 1962 and languished there for two decades. Under Japanese law at the time, foreign companies couldn't manufacture computer components in the country, and NTT, the state telephone company, had a monopoly on radiophones. The Motorola outpost could sell only a small volume of goods made elsewhere.

But it gave the American company a presence, which it used to win approval, along with other international companies, to sell cellular equipment in Japan. Finally, in 1985, international pressure and the AT&T breakup persuaded the Japanese government to end NTT's telephone monopoly. Motorola then successfully bid to provide the transmission system and phones for one of two new private Japanese cellular companies, both competing with NTT's existing cellular system.

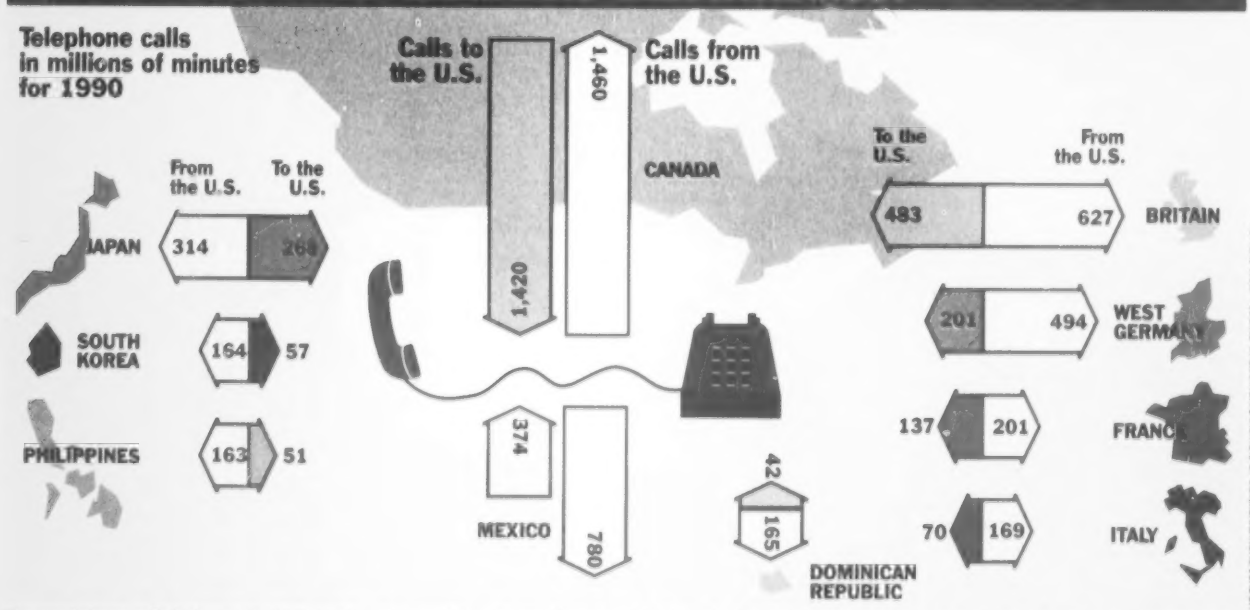
THERE WAS a catch. While the NTT network covers the entire country, each of the two new competitors would serve only half of it—and Motorola got the half that did not include Tokyo. Because Motorola's cellular system was incompatible with both of the systems that would be serving Tokyo, a Motorola subscriber visiting the capital wouldn't be able to make or receive a call. Few customers were likely to sign up with Motorola, even though it had the smallest, lightest phone.

The company's only chance was to get a sliver of the radio spectrum for its roaming subscribers to use in Tokyo. NTT, which happened to control spectrum allocation in Japan, said none was free. But Motorola knew that NTT was keeping in reserve a spectrum band for future expansion. NTT was hoarding. Motorola accused Japan of violating trade agreements to make the spectrum available to foreign companies. U.S. Trade Representative Carla Hills threatened an all-out trade war—duties and penalties on U.S. imports from Japan. In mid-1989 Japan relented. The Motorola system began operation this October.

Motorola persisted in that long, hard slog not only for the business opportunity but for defensive reasons as well. The head of Motorola's Japan group, Arnold Brenner, explains: "If you can't compete with Japan in its home market, you give them sanctuary where they can experiment with their product and bring it to the rest of the world. Then you're in trouble."

The Baby Bell companies have also gone

THE TEN COUNTRIES AMERICANS TALK WITH MOST



For most phone calls between the U.S. and foreign countries, it's the American who drops the nickel. One reason: U.S. long-distance companies charge less than their foreign counterparts. But American carriers must pay foreign ones for completing the call. That amount is not half of what they charge you, but half of a far higher "international settlement rate." On some calls U.S. carriers hand over 75% of what they collect. Yet AT&T, which has about 80% of the U.S. traffic, is curiously complacent. Why? The high settlement rates make it tougher for Sprint and MCI to compete on price.

GRENVILLE TURNER WRIGHT

Tom Potrykus of Ameritech runs marketing at New Zealand Telecom, jointly owned with Bell Atlantic. That's a satellite antenna not far from Wellington.

overseas in force. In the two biggest international acquisitions so far (see table), they have bought controlling interests in the state telephone systems of New Zealand and Mexico, taking advantage of a chance to build their basic business with the stroke of a pen. Bell Atlantic and Ameritech, which teamed up to buy New Zealand Telecom for $2.4 billion in 1990, sold off 31% of the company this July as required by the terms of the deal. (The government wants to keep some of Telecom in local hands.) The American partners made a profit of $147 million on the sale.

Southwestern Bell may have done even better with Telmex, the Mexican phone company that it bought an interest in last December as part of a consortium with France Telecom and Grupo Carso, a Mexican diversified services company. (The consortium acquired 20% of the equity and 51% of the voting rights.) Mexico's phone system was not in terrible shape, but many small towns had no service at all and customers who wanted repairs had to wait in line for hours. Worse, anytime the company put in a new central office switch, everyone in the service area had to get a new telephone number.

The consortium agreed to some ambitious goals: It will invest $12 billion of Telmex revenues over the next five years to increase the number of phone lines by 12% annually. Where capacity is available, it has started guaranteeing installation dates, sometimes within a week. Jeff Robinson, director of international operations for Southwestern Bell, says: "Mexico City has 19 million people and only three million phone lines. There's all the demand you can stand."

THE DEAL illustrates the value of doing business in the right place with the right people. Texas, the biggest state in Southwestern Bell's service area, shares a 1,200-mile border with Mexico. Phone traffic is heavy between the two regions, and many of the company's employees speak Spanish. Southwestern Bell also chose its partners well. Telecommunications lawyer Judith O'Neill of Steptoe & Johnson in Washington, D.C., says: "One thing American telecom companies have done to compete better is the joint venture. It's now No. 1 in the rule book."

The aim is not just to lay off the investment risk but to share responsibilities and human resources. France Telecom is renowned in Europe for modernizing the French telephone system; it will advise Telmex on installation of digital switches. Grupo Carso will manage administration, labor, and regulatory matters. Southwestern Bell will maintain the lines from the central office to the customer and expand the cellular system. It has already made a bundle on the deal by exercising an option in September to buy another 5% of Telmex from the government, which had retained some of the highflying stock. Southwestern Bell came out with a $447 million paper profit.

The chance to buy a whole phone company is rare, so the Baby Bells have generally concentrated on setting up cellular systems in developing countries where basic phone networks are in poor repair. Cellular systems, relatively easy to install, are a quick communications fix. AT&T has only now begun talking about running its own cellular systems abroad. So far it has provided just network gear in South Korea, the Philippines, and the Dominican Republic.

This September, US West began operating the Soviet Union's first cellular telephone system in St. Petersburg (then still officially called Leningrad). The company built the system in six months amid high drama. Dick Callahan, who runs US West's foreign operations, says: "Anatoly Sobchak, Leningrad's mayor, called the head of our operation there on Wednesday of Coup Week. He wanted to make sure we were going ahead with the project because they needed the capacity." US West is also adding new international long-distance switches to the regular phone networks in Kiev, Moscow, and St. Petersburg, increasing the country's international circuits from 1,200 to over 24,000. (There are 637,000 from North America to Europe and Asia.)

Bell Atlantic just began operating a cellular system in Czechoslovakia in tandem with US West. The experience put American flexibility to the test. The government phone

people originally wanted the Baby Bells to install one cellular system that would serve for two years—and then replace it with another now being developed. They also assumed that cellular service would be universal, even in the countryside, where it could only lose money. After scaling back the project to cover just two major cities, they learned from the Americans just how bad the basic Czechoslovak phone system was. So they reexpanded their plans for the cellular system to cover all major cities. Daniel Behuniak, vice president of Bell Atlantic International, says gamely, "We were presented with many opportunities to redefine what our package was."

Some verities of doing business abroad just do not apply in telecommunications. The conventional wisdom says to avoid capital investments in countries with Monopoly money currency. Yet Bell South has created a niche building cellular systems in South America. Surprisingly, the company doesn't have to worry about deadbeats. O'Neill, the telecommunications lawyer, says, "Once you have service in Argentina, you never stop paying for it because it can be six to 12 years before you get it turned back on." One telephone just installed had been ordered in 1948.

US West's Delta Telecom joint venture with the Soviets has brought cellular telephony to St. Petersburg. The Cyrillic lettering on the building to the right spells Faberge.

It's often argued that U.S. telecommunications companies are at a disadvantage at home because the American market is the most open in the world. For the Baby Bells, though, Britain is the Wild West. There they can compete in two businesses they would sorely love to enter in the U.S. but legally may not, except for small-scale tests: cable TV combined with phone service over the same wire, and personal communications networks, or PCNs, the next generation of cellular service. PCNs use phones that are smaller, lighter, and cheaper than current models, and are designed for use by people on the street or in buildings. Nynex is investing over $1 billion in British cable systems; US West has cable systems there too, and will begin building a nationwide PCN service later this year.

The Baby Bells' cable ventures have not been an unalloyed success. A US West consortium pulled out of a cable franchise in Hong Kong, losing $6 million after a partner sold out and the government authorized a new satellite TV service that killed a lot of cable demand. And cable franchises in Britain aren't as profitable as they can be in the U.S. Southwestern Bell's Robinson says that compared with the U.S., people in Britain spend less time in front of the tube and more in front of a jar at the local pub. His staff has also found that potential British subscribers don't take to mail solicitations and must be signed up door to door. The company has even caused resentment by tearing up hallowed old cobblestones to lay its cable. Says Robinson: "Without a doubt we've been somewhat disappointed with the penetration levels. Cable here is a much more difficult sale."

Companies that score first in new international markets are often ones Americans have never heard of. In 1986, Hutchison Telecommunications of Hong Kong learned that Lloyd's of London had for sale, cheap, a damaged Western Union satellite that had been retrieved by the space shuttle. No communications satellite served Asia then, so Hutchison hatched a plan to launch one in partnership with the government of China.

Rick Siemens, Hutchison Telecom's chief, says, "No one ever thought of a Far Eastern country as being wealthy enough for a satellite, but it is ideal for a developing country without a ground network." The satellite went up in April 1990 at a cost of about $110 million. Hutchison has leased all 24 transmission sites on the satellite. In September, the company started phasing in the five-channel Prime Network, which, among other entertainments, is bringing MTV within range of 2.7 billion unsuspecting Asians. The satellite venture is already making money on an operating basis.

MANAGING company phone systems is becoming enormously complex as multinational corporations spread out. That fact is raising the tempo of competition among providers of long-distance service, including AT&T, MCI, Sprint, British Telecom, France Telecom, Deutsche Bundespost, and NTT. David Yedwab, vice president of the Eastern Management Group, a New Jersey consulting firm specializing in telecommunications, says: "All the international carriers are groping to develop alliances so a company that wants a private international network only has to deal with one of them."

British Telecom is trying to go one better than that: It announced in September that it has started its own international network. BT will have switching centers in 70 major cities around the world. The company will link the centers with fiber-optic cable, connecting each of a customer's offices to the nearest hub by microwave or leased lines. In some countries BT will need government permission if the network is to serve more than one company. But not in the U.S., which means domestic long-distance carriers can no longer consider American customers safe bets even on their home turf.

The American pioneers abroad are in a turbulent race for the best opportunities. One veteran wonders whether the Baby Bells have spent enough time thinking about long-term strategy. "We lack a vision of what happens beyond the year 2000," says Andres Bande, head of Ameritech International and formerly with US West. "Companies are now wrestling with how the pieces will all fit together." Nevertheless, U.S. telecommunications companies cannot afford to hold back overseas. When Arnold Brenner of Motorola addresses the point, he quotes hockey star Wayne Gretzky, no slouch himself in international trade: "There is a 100% probability that you will not score on the shots you don't take." F

HOW COMPANIES SPY ON EMPLOYEES

Done right, monitoring performance by computer or telephone improves service, productivity, and profits. Done wrong, it just bugs the staff—in both senses.

■ *by Gene Bylinsky*

DOES TECHNOLOGY make service workers more productive? Maybe not always, but using it to help supervise them can sure improve their performance—and often yields increased sales and profits.

At General Electric's gleaming Answer Center in Louisville, Kentucky, for instance, more than 200 agents field over 14,000 telephone inquiries a day from potential appliance buyers and fix-it-yourselfers. Ten "coaches" record the agents' calls and later play back some of the conversations to the agents to enhance the quality of their dealings with the public. This so-called silent monitoring, along with other management techniques, pays off in 96% Answer Center customer satisfaction, as measured by outside survey firms. Center manager William E. Waers reports that while it costs GE $4 to answer each call, the center generates an average of $16 a call in appliance sales and service savings. The company can often avoid sending out repairmen to fix products under warranty.

Silent monitoring, where the employee doesn't know exactly when the "coach" is listening, is spreading among U.S. companies that use service workers. The practice isn't new with telephone companies; AT&T was using it in the late 19th century. But it has now spread to airlines, banks, insurers, computer manufacturers, appliance makers, and others that all told operate at least 5,000 incoming telephone call centers around the country; most use monitoring of one kind or another. At many companies, from biggies like Southern California Gas to small fry like Data Entry Services, a Baltimore payroll and ledger processor, managers deploy computerized devices and software programs that

REPORTER ASSOCIATE *William E. Shreline*

So-called silent monitoring at GE's Answer Center in Louisville has paid off in customer satisfaction. Here technician Ruben Castillo fields a consumer's query about an appliance. At any time, a supervisor may be recording the conversations for playback to help him improve his responses.

PHOTOGRAPH BY BILL LUSTER

GAYLORD HERRON

Avis uses direct monitoring with newer reservation agents who ask for help. In Tulsa, senior agent Kim Cuccuini (center) takes turns responding to calls with Sevillia McKenzie (left) to give her pointers on technique.

count the keystrokes of their data entry clerks and telephone operators to gauge productivity. Others take surveillance to Big Brother extremes: They secretly watch the screens of desktop computer operators—and have even been accused of reading employees' electronic mail surreptitiously.

No one knows exactly how many American workers are being monitored. After surveying several hundred public and private offices in the mid-1980s, the congressional Office of Technology Assessment put the number at six million. Last year a study of 186 New York metropolitan area companies by two state university professors found 73—roughly 40%—using electronic surveillance.

WHATEVER the total these days, the number and variety of workers falling under electronic surveillance are clearly growing. Waiters, nurses, and hotel maids are beginning to be monitored, often by hand-held computers they carry around themselves. But it's not only relatively low-paid workers engaged in repetitive tasks who are having their moneymaking effectiveness checked this way. Surveillance is expanding to cover highly paid professionals as well—stockbrokers, loan officers, lawyers, even veterinarians. At the Charles Schwab discount brokerage, experienced stockbrokers who earn as much as $70,000 a year are routinely listened in on through computerized voice-recording systems. The purpose is to improve performance by having supervisors appraise the quality of customer service, as well as to create a permanent record of the transaction.

"The effect of this expansion of computing is to make management more far-reaching in its grasp on the life of the corporation," concluded sociologists James Rule of the State University of New York at Stony Brook, and Paul Attewell, a former colleague, who did the survey of companies in the New York area. Says Rule: "Computers can reveal certain types of information that otherwise simply would not be available to managers. Now they can make better-informed decisions."

Surveillance—properly done—can help people do their jobs better. But as employers' needs for more information about employee performance bump up against workers' desire for privacy, the negative aspects of electronic monitoring and telephone surveillance are getting more attention. Legislation to limit secret monitoring is moving through Congress. Unions point to studies that show the stress electronic monitoring puts on employees (see chart). Some business groups, including the National Association of Manufacturers, are fighting the proposed law.

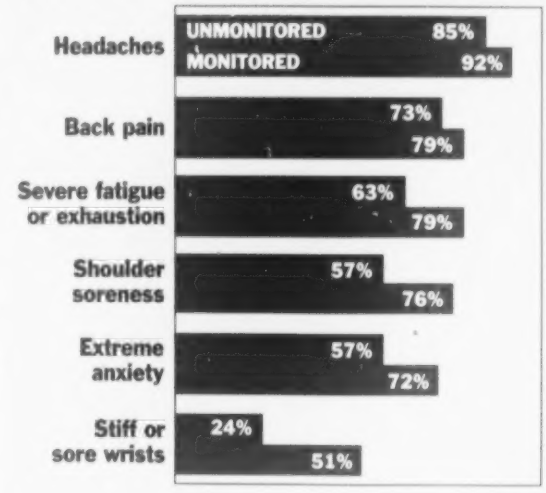
A growing number of class-action lawsuits by employees accuse employers of overstepping the bounds of decency and privacy in the workplace by scrutinizing electronic mail or eavesdropping on telephone calls. Some employers face suits for firing workers supposedly because the bosses didn't like electronic mail messages they had read—sometimes after assuring employees of privacy. In Carson, California, software specialists Bonita B. Bourke and Rhonda L. Hall are suing Nissan Motor Corp. in U.S.A. for allegedly forcing them to quit after a supervisor had read their electronic mail and objected to their using it for personal correspondence. Nissan calls the charges unfounded.

The most extensive case of alleged corporate spying on employees now in the courts pits the Communications Workers of America (CWA) against Northern Telecom Inc., the U.S. subsidiary of the Canadian telecommunications giant. To thwart the union's organizing activities, the CWA says, Northern Telecom riddled a plant in Nashville with telephone bugs and hidden microphones that remained in use for 13 years. The CWA claims that the company tapped not only business phones but also public phones in the employee cafeteria, and recorded private conversations of workers with people outside the company.

The federal judge in the case has in hand tapes of recorded conversations, some produced by a former company security officer. Northern Telecom spokeswoman Linda Henson responds, "We do not condone, nor have we ever con-

DANGEROUS TO YOUR HEALTH

Knowing that somebody may be listening in makes stress-related complaints more common. The table shows results of a University of Wisconsin study of 762 telephone operators.



FORTUNE CHART

doned, any kind of illegal or unauthorized use of electronic surveillance equipment or any other sort of improper eavesdropping." She says the company does not comment on lawsuits.

Despite the horror stories, managers are finding plenty of legitimate ways to use monitoring to improve productivity without alienating or harassing workers. The best adopt some of the following techniques:

■ They select and train employees with considerable care.

■ They make clear to all employees how and why they will be monitored.

■ They use monitoring as an aid to coaching and counseling, not as a disciplinary tool. At the big Avis car-rental reservation center in Tulsa, for instance, the top performers work directly with newer agents who ask for help by sitting next to them and taking turns handling calls. "You invest your time where you can improve performance," says Charles Bell, vice president for reservations at Avis. "You don't waste it monitoring superstars."

■ They involve employees in setting up a fair, workable system. A shining example: AT&T is cooperating with the CWA in five pilot projects in the eastern U.S. involving about 1,000 telephone operators. AT&T's idea is to set up "self-managed" telephone call centers where employees work in teams. Workers now do the listening in to coach less experienced operators, and much less frequently than supervisors did in the past.

■ Finally, the best users emphasize quality rather than quantity. At the Answer Center, GE bases 70% of its operators' grades on the quality of their responses, 15% on such matters as showing up at work on time, and the remaining 15% on how many calls they handle. GE imposes no restrictions on how long an operator—or a technical expert, who stands by for particularly tough questions—spends with a caller. Some complex queries have taken as long as an hour and a half; the toughies have included how to clean a dishwasher after using it to thaw frozen fish, how to remove marbles from an icemaker, and how to fix a broken generator on the Alaska pipeline. "I don't have to worry about numbers to get a good performance review," says Diane Book, a ten-year veteran at the center.

By contrast, at some telephone and airline companies such as the Baby Bells and TWA, some operators are restricted to short "talk times," and productivity is measured primarily by the number of calls handled. Quotas are anathema to such experts as Gordon MacPherson of the Incoming Calls Management Institute in Annapolis, Maryland; Laura Sikorski, partner in Sikorski-Tuerpe & Associates of Centerport, New York; and other consultants. They say quotas can lead to a decline in both productivity and quality of response, and impose unnecessary stress.

"I have personally witnessed how my workplace has been turned into an electronic sweatshop by monitoring," TWA reservations agent Harriette Ternipsede told a congressional subcommittee hearing on the subject. (TWA says its monitoring doesn't differ from that at other airline reservation centers.) MacPherson and his fellow consultants try to coax call center managers away from indiscriminate monitoring and steer them toward the dictum of W. Edwards Deming that quality generates quantity. It's catching on, MacPherson says: "We're in for a period of enlightenment."

Director Karen Nussbaum of 9 to 5, a working-women's group: Don't monitor experienced employees.

ENLIGHTENMENT is overdue in the way some employers apparently monitor their employees' use of desktop computers. A PC may be personal, but it's far from private, especially if it's part of a network. A password keeps out the hackers but not necessarily the boss. The Norton-Lambert Co. of Santa Barbara, California, which makes CloseUp networking software, takes out trade journal ads to urge employers to "look in on Sue's computer screen . . . In fact, Sue doesn't even know you're there! Hot key again and off you go on your rounds of the company. Viewing one screen after another, helping some, watching others. All from the comfort of your chair."

Software suppliers such as Networking Dynamics Corp. of Glendale, California, which sells programs called Peek and Spy, boast that dozens of FORTUNE 500 companies use them—most merely to peek, others to spy. Peek requires an employee's approval on each occasion for a supervisor to see his PC screen; Spy allows access to the screen without the employee's knowledge or approval. Each program can cost anywhere from $800 to $8,000, depending on the size of the computer system.

Corporations are no more likely to admit

to outright spying on employees than they would be to interrogating them about wife beating or child abuse. Peek users, on the other hand, are somewhat more open. National Semiconductor says it employs Peek in its South Portland, Maine, customer response center to help supervisors troubleshoot remote PC screens. Often the aim is simply to make networking easier: Chevron is installing a Peek program in its Richmond, California, research facility to allow researchers to look at colleagues' screens so they can collaborate more readily.

The use of computer surveillance programs is soaring. According to Gartner Group, a Stamford, Connecticut, computer data analysis firm, they will hit $175 million in sales this year and should continue to grow at about 50% a year until at least 1996.

One major customer is American Airlines, which is installing remote-screen surveillance software to supplement its listening in on telephone calls at its big reservation center at the Dallas–Fort Worth airport. American says the idea is to enable supervisors to help agents use its global Sabre reservation system more effectively. In addition to hearing what agents are telling customers on the phone, supervisors will be able to see what agents are entering on their PC screens.

By contrast, executives at GE's Answer Center elected not to buy programs of that sort. "It just goes against our philosophy of professionalism and trust," says manager Bill Waers. Unrequested assistance risks driving employees up the wall. Several years ago one Midwestern newspaper reporter was interrupted in the middle of writing a story by an unseen editor who suddenly complained right on her screen: "I don't like your lead."

The fast-growing local area networks that tie many PCs together, along with the introduction of new telecommunications systems, make monitoring a lot easier for supervisors who are so minded. Two Apple Macintosh models appeared last year equipped with built-in microphones. The goal was to allow Mac users to store a limited number of voice commands that the computer would recognize. But that same feature offers unlimited opportunities for eavesdropping. There's no evidence that it's been done, but with the right software a distant manager could turn on the microphones and listen in on the Mac users' conversations. As the Macintosh example suggests, and as managers and telecommunications consultants never tire of emphasizing, it's not the technology that's evil. How it's used makes all the difference.

EVEN CRITICS concede that silent monitoring can be a great aid in teaching new employees how to deal with the public on the telephone. What they object to is its use once training is over. Karen Nussbaum, director of the 9 to 5 National Association of Working Women, says she has never heard a telephone operator or agent say that silent monitoring is helpful to experienced workers. Her group has compiled workers' complaints that such monitoring is "degrading," "demoralizing," and "hard on the nerves." Says Jack Carsten, a venture capitalist who in the mid-1980s ran Intel's 12,000-person components division: "Management that listens doesn't need any listening devices."

Consultant MacPherson: Don't set quotas that workers must meet.

Legal protection against surveillance for employees in American companies is almost nonexistent. The legislation now before Congress would not ban silent monitoring as a quality-control technique, but it would require employers to notify workers in advance and to alert them with a beep or a computer screen signal when monitoring is in progress. Many managers feel that would leave them without a reliable way to measure the quality of telephone responses. Thomas Flood, a vice president of Pacific Bell, worries that the practice "may reduce the quality of service currently provided to customers."

But not quite two years ago US West, the Baby Bell that serves 14 Western states, started informing its operators in advance of individual monitoring. They can choose to be monitored either remotely or by a supervisor sitting next to the operator. Despite fears in the industry that workers would slack off when they knew they were not being monitored, and that service would decline, US West has actually seen a rise in service quality.

The company now measures quality primarily by surveying thousands of customers each month. Says Arnold Manseth, US West vice president for employee relations: "You don't go into this with the assumption that everybody is there just to put in their time and that unless you somehow or other trick or force them to do a good job, they are not going to do it. Our thinking is just the opposite—we assume that people are going to do a good job. We know our employees are responsible and trustworthy." He adds, "We're probably breaking new ground in this area of service observing. We're really trying to form a partnership with our employees."

Part of the solution may lie in yet another new kind of technology: voice processing, the hottest trend in telecommunications, which allows the use of an "automated attendant." Combined software-hardware systems that incorporate this technology answer calls automatically and permit callers to route themselves directly by pressing various buttons in response to recorded instructions. A customer, for example, can Touch-Tone his way to, say, the current price of a stock and then, if he wishes, buy or sell the shares.

A growing number of banks use the systems. American Airlines offers a special 800 number that lets a traveler check flight schedules with uncomplaining machines before ordering a ticket by talking with a monitored agent. The result, says consultant Laura Sikorski, is reduced telephone costs and payrolls. And less of the friction that comes with spying on the staff. F

DEALING WITH SEXUAL HARASSMENT

Smart companies are educating employees about what it is—not always an easy call—investigating allegations fast, protecting victims, and penalizing offenders. ■ *by Alan Deutschman*

WHO COULD WATCH the controversy surrounding Clarence Thomas and Anita Hill without wondering how a case alleging sexual harassment might be handled in his or her own office? How to respond if you are preyed upon, or if you, as a manager, are charged to investigate an allegation? Says Labor Secretary Lynn Martin: "If any good comes from the Thomas situation, it will only be a wider discussion of the issue of harassment." That issue, always sensitive, has become increasingly subtle and confusing as legal definitions of harassment expand from obvious barbarities to encompass acts that over time create a "hostile work environment."

Business stands on the front line in the battle against harassment, pushed there by judicial decisions in the 1980s that hold employers financially liable for workers' transgressions unless the company actively strives to prevent offenses and responds effectively when they occur. As a result, corporations are getting tough about the subject: crafting intensive seminars for employees, such as those that take place at Honeywell and Corning; establishing 24-hour hotlines and providing security for victims fearful of reprisals, as Du Pont does; and initiating and completing inquiries swiftly, as AT&T strives to do.

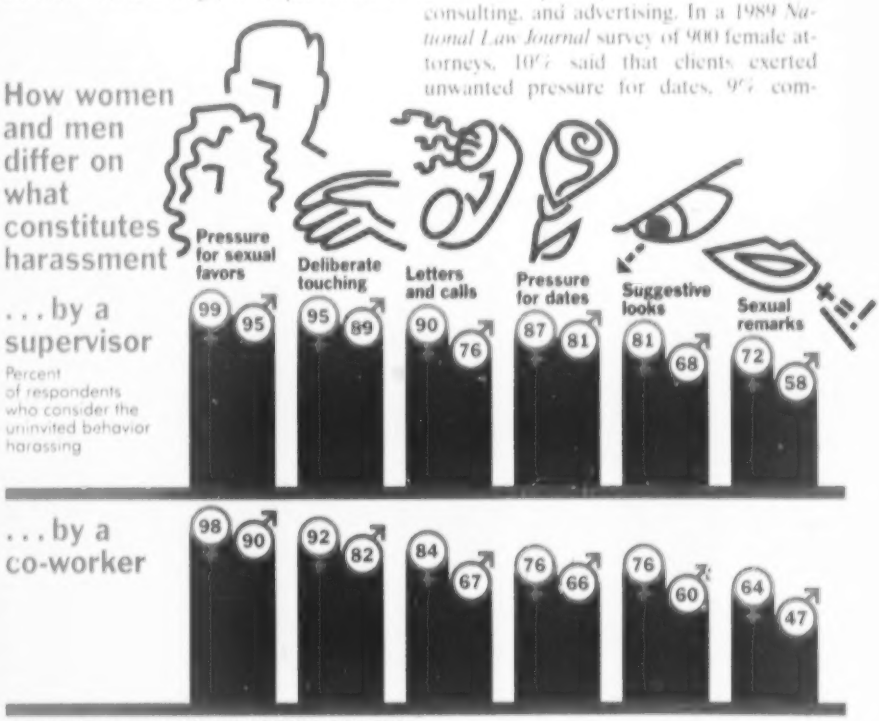
The results? No big gains so far—it may be early, and there are precious few data from the past to compare with. But the experience of large organizations at work on change offers valuable lessons for any company or concerned employee.

While even a single case of harassment is one too many, the extent of the problem may be overblown, particularly in assertions that 75% or 90% of women have been victimized. The most authoritative data on the pervasiveness of harassment in its various guises come from the U.S. Merit Systems Protection Board, a federal agency. In 1980 it polled 20,000 federal employees about the incidence of sexual harassment in government offices. It repeated the survey in 1987, asking the same questions of another 8,500 government workers. The results of both polls were remarkably similar: 1% of female respondents claimed to be victims of actual or attempted rape or assault; 6% reported pressure for sexual favors.

Only a few incidents involved a boss demanding a quid pro quo from a subordinate—have sex with me if you want that promotion or want to keep your job. Most incidents occurred between peers or colleagues. In these cases job security isn't at stake, but the work environment can become abusive. Offensive conduct, according to the women polled, took the form of remarks (cited by 35% of women), suggestive looks (28%), touching (26%), pressure for dates (15%), and unwanted love letters and calls (12%). Men suffered all the same kinds of harassment, but the incidence was about a third that of women. Men were far less apt to talk about it or report it to supervisors.

Merit Systems found that the most likely victims—female or male—were single or divorced. Women were at above-average risk if they had college educations or graduate degrees; men, if they worked in clerical jobs. The risk was also higher for workers in places where the vast majority of their coworkers were of the opposite sex.

Harassment isn't just a matter of one employee's victimizing another. Clients and customers can also use the power of their position—go along or I'll give the sale to somebody else—as a license for licentiousness, especially in such fields as law, consulting, and advertising. In a 1989 *National Law Journal* survey of 900 female attorneys, 10% said that clients exerted unwanted pressure for dates, 9% com-



FORTUNE CHART / SOURCE: U.S. MERIT SYSTEMS PROTECTION BOARD, 1987

REPORTER ASSOCIATE: *Sara Hammes*

Du Pont's Di Sabatino: helping victims know what to do

plained of touching, cornering, or pinching, and 4% cited pressure for sex, sometimes as a prerequisite for getting the client's business.

So what should a company do to keep its employees—and itself—safe? Educating employees is vital but not easy, because there is considerable uncertainty and disagreement about what harassment is (see table). Legal doctrine has evolved fitfully since the landmark 1986 Supreme Court decision *Meritor Savings Bank* v. *Vinson*. That case expanded the definition of harassment to include verbal or physical conduct that creates an intimidating, hostile, or offensive work environment or unreasonably interferes with an employee's job performance.

Unfortunately, men and women harbor different notions of what's intimidating, hostile, or offensive. A survey conducted in 1981 by sociologist Barbara Gutek of 1,200 people in Los Angeles County found that 67% of the men said they would feel flattered if a colleague of the opposite sex propositioned them, while 63% of women would be offended. Another survey by *Redbook* magazine and *Harvard Business Review* indicated that 24% of the women believed that a man giving a female worker a visual once-over was harassment, while only 8% of men thought so.

The best corporate practice calls for companies to create and publicize a forceful policy against sexual harassment. In 1989, Honeywell clarified its once obscure and legalistic harassment statement by distributing handbooks in plain English to every employee and putting up posters in conspicuous places. As a result the number of reported incidents has increased significantly, a good sign suggesting that more victims are seeking help.

Corporate education programs typically start out by sensitizing employees to the issue of harassment and then use role playing or other techniques to rehearse tactics to counter it. Du Pont's efforts are a worthy model. In 1988 the company began offering its employees a four-hour workshop on harassment called "A Matter of Respect." So far 65,000 workers have gone through it. Explains Dar Di Sabatino, a director of the workshop: "We were hearing about subtle situations of harassment. The individuals didn't know what they could do about it or if they should do anything about it." Each workshop is led by a specially trained man and woman; these teams are recruited from all areas of the company, not just from human relations. Small groups—always a balanced mix of men and women—watch videos portraying incidents that can be from real life, then discuss appropriate responses.

THE SIMPLEST and most effective way to put an end to harassment in most instances is to ask or tell the person to stop. This just-say-knock-it-off tactic worked for 61% of the women who tried it, according to the Merit Systems survey. Telling other colleagues, or simply threatening to do so, proved the second-best response, effective 55% of the time. Pretending to ignore the offensive behavior—a common ploy—usually doesn't work at all.

When employees can't resolve the situation on their own, or feel unsure about what to do, employers should make it easy and safe for them to seek help. Since 1985, Du Pont has run a unique 24-hour hotline that offers advice on personal security and sexual harassment. Callers need not identify themselves, calling does not constitute bringing charges, and confidentiality is assured. "The hotline is a real source of comfort," says Di Sabatino. "It gives people direction and helps them think the issues through before they take any action."

If a victim of or witness to harassment lodges an official complaint, there must be an immediate response. At Du Pont, the employee's supervisor usually handles the matter, but if he or she is the accused, or the employee feels uncomfortable talking to the supervisor, a personnel specialist can do the job. Sometimes a full-fledged investigation may be necessary. Alas, fact finding is often difficult or impossible, since there may not be any witnesses or physical evidence of harassment. Paula Winkler, who looks into charges for AT&T, which, like Du Pont, has a policy of immediate investigation, observes that another problem is proving the sexual attention was unwanted. "One of the first questions we ask the victim," she says, "is, 'Did you tell the person you didn't like it, and how many times?' "

Quick action is essential. In the early 1980s the federal government took an average of 482 days to resolve a harassment complaint filed by one of its employees. Not surprisingly, many victims said they lacked confidence in the system and didn't enlist its aid. Winkler says AT&T strives to complete its inquiries in three to 20 days. Even that period can seem nerve-rackingly long. Du Pont sometimes engages security guards to prevent retaliation against complainants during investigations.

If allegations are proved, companies must find an appropriate response—from warnings to reassignment to termination of the offender. Du Pont automatically reassigns the harasser unless the victim specifically requests a transfer.

Occasionally the accuser is the guilty party. Winkler estimates that some 5% of allegations at AT&T prove false. They are commonly the work of employees taking revenge against a boss—often following a disappointing performance review—or conniving to switch departments. AT&T suggests that these people go through counseling, and some companies subject them to penalties, such as demotion.

A final, and timely, word of warning: Sexual harassment tends to be less common in stable companies where employees feel some loyalty to the corporation and to one another. They realize they must treat everyone with respect and sensitivity, if only because they are all going to be working together a long time. One ugly consequence of restructuring and recession is that they may jeopardize that kind of stability, creating work environments more conducive to harassment. F

BANKERS WHO BEAT THE BUST

In an industry shaken to its wing tips, these managers prosper. Their secrets: superior customer service, generous employee incentives, and knowing the local market. ■ *by Terence P. Paré*

HOW BAD OFF is the banking industry? On the East Coast, proud Chase Manhattan has been selling off pieces of itself. Out West, mighty Wells Fargo has added $350 million to its loan loss reserves. All across the nation, famous old banking names are disappearing in the wake of consolidation. Even crooks are feeling the pinch. The average take from bank robberies dropped 10% last year. Sorry, Willie Sutton, banks are where the money *isn't*.

Though these are the hardest times for them since the Great Depression, good bankers are running good banks in just about every area of the country. To find five of the best, FORTUNE screened statistics compiled by Keefe Bruyette & Woods on 245 of the largest publicly traded banking companies. We focused on two benchmarks of performance: return on assets (ROA) and return on equity (ROE).

ROA is the ratio of after-tax profit to assets—which for a bank include loans, securities, checks in the process of collection, foreclosed real estate. The best gauge of profitability, ROA measures how efficiently a bank's management deploys the money it borrows from depositors. ROE, the ratio of after-tax profit to shareholders' equity, calibrates the rate at which investors' stakes in the company grow.

To make the list, a bank had to have an ROA of 1% or better and an ROE of 15% or better every year for the past five years, more than twice FORTUNE 500's average for the top 100 commercial banks. With the hurdles this high, such well-known, well-run institutions as Banc One, First Wachovia, and J.P. Morgan fell short. We tossed out banks that made the numbers largely because they were in sheltered markets with little competition. And we relaxed the rules in Texas: In that battered economy a bank that performs about two-thirds as well as our standard—

Forget toasters. At University National Bank & Trust in Palo Alto, California, CEO Schmitt (center) woos customers with free onions and great service.

JOHN HARPER

First Abilene—should be judged as doing very well indeed.

Let's see how these superbankers do it.

A SMILE AND A SHOESHINE

■ At tiny University National Bank & Trust in Palo Alto, California, the free shine comes from a bootblack stationed on the left as you enter. The smile belongs to Carl J. Schmitt, 57, the infectiously good-humored chief executive. Remember the free toasters bankers used to give away? Schmitt, a man with tastes of his own, prefers to distribute onions—this year 23,000 pounds of them. Not just any onions, mind you, but sweet ones the size of bocce balls, grown only in Walla Walla, Washington.

A man who knows his onions, Schmitt figures that what he likes, University's customers will like too. That's why he started the bank 11 years ago and has built it to $325 million in assets. After 14 years as a loan officer at Wells Fargo and three years as the Superintendent of Banks for California, he felt financial institutions failed to provide the service customers wanted and would pay for. Says he: "Good bankers are like family doctors." The patients want a comfortable, long-term relationship.

University's service is a prescription for customer satisfaction. Monthly statements are mailed within two business days of the end of the month. Credit cards carry a variable rate of interest—prime plus 5%—which currently works out to 13%. Many banks charge 18% or more. Five vans call on business clients who are far from one of University's three branches to collect non-cash deposits.

So how can University pay for it all? Clients pay too. To enjoy the bank's amenities, they must open a checking account. For individuals, that will take a minimum of $2,000, on which the bank pays no interest. Then it hits them up for a $20 fee whenever the monthly balance falls below $1,500. The bank creates a clublike aura of desirability. Applicants who are not recommended by customers must submit to a credit check—to open a checking account!

All those onions bring stockholders plenty of cabbage. Over the past five years, University National has earned the stunning returns shown at right. The share price has more than doubled to $23.50 bid since 1986, and annual dividends have grown from 15 cents a share to 75 cents.

REPORTER ASSOCIATE *Patricia A. Langan*

Expansion is in the genes at Synovus, where Jim Blanchard multiplied his dad's single bank to 26.

TOUGHING IT OUT IN TEXAS

■ Like every other bank in the Lone Star State, Abilene's First Abilene Bankshares, with $769 million in assets, has been buffeted by the collapse in oil prices and the real estate bust. But unlike many of them, it stayed in the black. CEO Kenneth T. Murphy, 53, accomplished this feat by insisting that his institution remain a community bank—a small outfit owned and operated by members of the community and serving the immediate area. Says Murphy, with a modesty unbecoming a Texan: "The emphasis here has always been more on profit than on size."

Over the past five years, the gross state product, corrected for inflation, has grown at an average annual rate of 1.3%, less than half that of the country as a whole. But since 1986, First Abilene's average ROA, 0.8%, easily topped the 0.3% performance for the largest 100 commercial banks, while its return on equity of 9% beat out the big banks' 6%. And investors? A $100 investment in First Abilene stock in 1986 would be worth $215 by 1991, vs. $156 if the money had gone into the Standard & Poor's 500-stock index.

A onetime oil field roustabout, Murphy spent six years with the Comptroller of the Currency as a bank examiner before he joined First Abilene in 1971. He was appointed CEO in 1985. John Hamil, a local undertaker and a director of the bank, says, "There is not a lot of monkey play or horse business about Ken." Just horse sense. The holding company now embraces five subsidiary banks. Every loan is reviewed by the appropriate bank's board of directors.

First Abilene's five boards demonstrate the great strength of community banks. In addition to Murphy, who serves on all of them, the directors include local ranchers, farmers, contractors, and oilmen. Let management consultants drone on about getting close to the customers until the moon shines through the outhouse door. These directors can't get away from them. They bump into their borrowers on the golf course and at the Lions Club pancake breakfasts. Says John Snow, an analyst who follows First Abilene for Chicago Corp.:

FIVE SUPER BANKS Assets	Return on equity average 1986–90	Return on assets average 1986–90
University National $325 million	17%	1.2%
First Abilene $769 million	9%	0.8%
Wilmington Trust $3,800 million	24%	1.0%
Synovus $4,100 million	17%	1.5%
Fifth Third $8,500 million	16%	1.6%
Top 100 banks' average	6%	0.3%

SOURCE: CHART

"Community bankers know who is good, who is on the bottle, and who is having credit problems."

Good ol' boys make good ol' loans. All but 2.3% of First Abilene's $314 million portfolio are paying interest and principal on time. That performance beats the national average. About 3.2% of the typical bank's loans are nonperforming.

PROFIT/PERSON RATIO

■ Wilmington Trust was swamped and listing badly when Bernard J. Taylor II was piped on board the Delaware bank as CEO in 1979. Over half the assets were in long-term bonds, but high interest rates had sunk prices, leaving the liquidation value of the securities $60 million shy of the original purchase price. This at a time when the bank had only $78 million in capital.

Taylor's obvious task: Restructure the bond portfolio, and he was eager to get started. He had spent 28 years at Philadelphia's Fidelity Bank, the last six as executive VP of the holding company, when a management change cut him adrift. Wilmington offered a chance to captain his own vessel. But three months after Taylor got there, Federal Reserve Chairman Paul Volcker put the brakes on the money supply, and interest rates rose, like the hairs on the back of Taylor's neck, all the way to 21%. "Bond prices kept dropping," he recalls. "Every day I'd go home and say to my wife, 'How low can they go?' And the next day they'd go lower."

Bit by bit, Taylor, 65, sold off the bonds he could afford to unload and turned his attention to the other assets. As interest rates eased, for example, he refocused the bank on its profitable trust business and expanded into investment management. Using Wilmington's strong presence in the retail banking market as a base, he pushed hard into commercial lending by building up a staff that went out after business.

At the same time, he squashed the management structure. Once you would have needed to remove your shoes and socks to count all the levels between entry positions and the executive offices. Today you can do it on one hand. To light a fire under his charges, the CEO established a liberal stock option incentive plan for executives and a discount stock purchase plan for everyone from teller to Taylor. Employees may put up to 10% of their annual salaries in Wilmington shares at a 15% discount to the market price.

Productivity blasted off. In 1980 each of the company's 1,936 employees generated $7,804 in profits. By 1986 the figure was $20,849, and last year it reached $34,627. In Citicorp's best year on record (1988), it took 89,000 employees to earn $1.8 billion, an average of only $20,876 a head. The stock took off too, from $3 a share in 1980 to $50.50 recently.

With liberal stock incentives, Taylor turned his charges at Wilmington Trust into superproducers.

THE ACCIDENTAL BANKER

■ James H. Blanchard was just 28 and a practicing lawyer when his father, then president of Columbus Bank & Trust in Columbus, Georgia, died of lung cancer in 1969. The bank's owners and directors asked the son to take over, no easy task. During Dad's ten-year tenure, the bank had grown threefold in assets. What could they expect from Junior? Says he: "They said that I was my father's son. They thought I could do the job."

He's been doing it ever since. In 1988 he initiated a vigorous expansion. Columbus Bank & Trust became the nucleus of a holding company now called Synovus Financial, which owns 26 banks spread over Georgia, Florida, and Alabama. Net income at Synovus has grown 11.4% annually since 1988, reaching $35 million in 1990, while assets have ballooned 100% to $4.1 billion. Meanwhile, Blanchard, now 50, has gone from being the youngest bank president in Georgia to being one of the longest-serving chief executives of any company in the state.

None of the 26 banks wear the name Synovus, a portmanteau word resulting from "synergy," and "novus." The futuristic moniker seems sensible when you learn that Synovus also services the AT&T Universal card through an 82%-owned data-processing subsidiary called Total System Services. Only American Express's First Data Resources unit serves more than the 111 financial institutions that Total System does. It also suggests the way the boss runs his business, which could be considered B-school perfect.

Blanchard relies on a highly decentralized system that usually leaves the acquired bank's management in place and name on the door. Headquarters sets overall financial targets but otherwise interferes as little as possible in day-to-day operations. The local bank president—not two or three people in Columbus—decides to whom he

will lend. That responsibility empowers the local managers. Says Blanchard: "Everyone is energized."

NO BANKER'S HOURS

■ George A. Schaefer Jr. knows exactly how comedian Jay Leno must feel about taking over from Johnny Carson on *The Tonight Show*. As the new chief executive of Fifth Third Bancorp, the Cincinnati outfit with $8.5 billion in assets, Schaefer comes on stage after one of the best acts in the business, Clement L. Buenger.

When Buenger, 65, stepped down as CEO and became chairman last January, he left behind a bank with a distinctive name—it is the result of a merger early in the century between Fifth National Bank and Third National Bank—and distinguished financials. Over the past five years, Fifth Third's net income grew an average 14% a year, and its stock price tripled. ROA averaged 1.6% over the period and its ROE 16%. Problem loans? Blessedly few.

The bank had always been profitable, but Buenger, who started his career as an accountant at a Kroger subsidiary, turned it into a selling machine. Selling at Fifth Third means, very simply, working hard. No banker's hours here. Managers are at their desks at 7:30 A.M. every day, and they stay there until 6:30 P.M. or later. Lending officers are accountable for every loan they make for as long as they remain at the bank, regardless of promotions. Everyone from the chairman down makes cold calls on potential customers. When the bank opened a new branch recently, Schaefer, who had just become CEO, led the troops on a blitz, knocking on the doors of homes and businesses in the area, introducing the bank to its new neighbors.

The army travels on incentives. Buenger instituted liberal stock option plans, and employees at all levels can receive bonuses so generous that Buenger boasts to recruits that if they work hard, they can fully expect to retire millionaires. Fifth Third already has several secretaries worth $500,000.

Backed by 20 years of experience at Fifth Third, the gung-ho corporate culture, and the discipline he learned at West Point, Schaefer, 46, is confident that he can continue the bank's superior performance. Says he: "There isn't any mystique to what we do. It's Woody Hayes–type banking. Three yards and a cloud of dust straight up the middle." Sounds like the game plan for any championship bank. F

Thuy Thu Le, Vietnam Refugee, returned to Asia to act in "Casualties of War."

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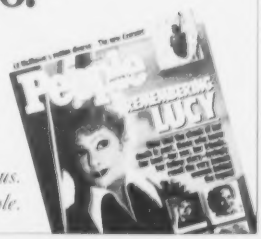

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LIQUOR PROFITS

We're drinking less, but the big liquor sellers are earning more. They understand global brand management and joint ventures so well that falling demand doesn't faze them. ■ *by Bill Saporito*

IN ALL THE GIN JOINTS in all the towns in all the world, a guy looking for a drink doesn't have as much company as he used to. The thirst for liquor is ebbing in the United States, where the volume of spirits sold has been decreasing about 3% annually for half a decade. The Brits quaff less beer, and the French drink less wine. And this year the Gulf war scored a direct hit on the liquor industry, as the related drop in travel taxed the duty-free business severely. "It's definitely the toughest year we've faced in quite some time," says Edgar Bronfman Jr., president of Seagram Co. Ltd.

But if all this leads you to think the industry is hurting, you've been misinformed. Last year was a corker for the big booze companies, each of which had record profits. And even with worldwide consumption in decline, the industry projects a decade of solid earnings growth ahead, as new markets develop and old ones are harvested like so many cognac grapes. Last year, for instance, Bronfman's company increased operating profits in its namesake business 27%, to $612 million on sales of $4.8 billion. Try earning that from orange juice.

The industry's continuing success is absolute proof that global brands – each with a single, worldwide marketing message – can be sold to industrialized and developing countries alike. The universal message: Drinking better is part of living better. And

Making Scotch whisky is still a 17th-century process: Workers rack barrels of the stuff to age at Highland Distilleries' Tamdhu plant in northern Scotland.

RUNNETH OVER

when sophisticated marketing meets rising affluence in countries such as Thailand, Greece, or Brazil, demand there increases for expensive brands such as Chivas Regal, Smirnoff, Johnnie Walker, and Courvoisier. The only soft spot in this strategy is the U.S., where recession is boosting value brands at the expense of the higher-priced stuff—a short-term blip, say industry strategists.

Most of the global brands, as well as many leading national brands, are in the hands of four companies. Together they control about 35% of the spirits segment of what the British so nicely refer to as the drinks industry. That's a huge share compared with that commanded by leaders in most global consumer products and about twice as big as their share just five years ago, before a wave of acquisitions swept the business. "The industry has engaged in incredible consolidation, more than anyone thought possible. And it is not over," says Marvin Shanken, publisher of *Impact*, an industry trade bible.

It is a very British industry, a historical consequence of Prohibition in the U.S. and the 500 or so years that the Brits have spent in the wine and whiskey trade. Three of the world's four largest liquor companies are headquartered in London. "This business is all about selling image, and who could be better at that than the British?" notes one of them, John Wakely, European beverage analyst at Lehman Brothers International. Liquor is one of Britain's largest sources of export revenue.

The largest seller by volume is Grand Metropolitan, also owner of Pillsbury and Burger King, whose International Distillers & Vintners (IDV) sold 60 million cases of spirits last year and whose wines and spirits brought in $5 billion in revenues. Guinness, the Dublin-born company better known for its stout, sells nearly twice as much whiskey—$3.8 billion worth—as beer, and at four times the profits. Allied-Lyons, also a brewer, owns Dunkin' Donuts and Baskin-Robbins ice cream parlors, but the company's Hiram Walker Group does far better with products like Canadian Club than Allied does with butter pecan. The Canadian-based Seagram has diversified from the whiskey that made the company legendary during Prohibition and rich after it. Ironically, though, Seagram's 25% share of Du Pont has been losing value.

REPORTER ASSOCIATE *Jennifer Reese*

Guinness CEO Anthony Tennant made brand management rather than production the industry focus.

TO THEIR considerable benefit, the spirits players grasped three key concepts long before many other industries. The first is that truly global brands are powerful profit engines. Wakely estimates that the Johnnie Walker brand alone contributed $500 million in operating profits to Guinness last year. Moreover, a portfolio of existing international brands seems bound to increase in value, because new brands are nearly impossible to establish. Even hot "new" products such as Baileys Original Irish Cream are more than ten years old.

The second concept is that crafting an image and a market position for a brand is useless unless you also control the pricing and distribution of the product. At one time most spirits companies acted as exporters and lost control over their brands when the bottles left the loading dock. But as they began acquiring more brands, the big players also began systematically acquiring scores of distribution companies—the outfits that sell the brands in a given country or market, either to wholesalers or directly to retailers. Guinness alone has displaced some 700 of its distributors in five years.

Third, the big competitors recognized the importance of cooperating with one another in countries where no single company had the market share or the assets to make much headway in distribution. They have done an exceptional job of understanding and executing some unusual joint ventures. Grand Met, for example, has four partners in the Far East, one of which is Seagram.

This unified global strategy is producing staggering profits. The spirits segment of Guinness had 1990 operating earnings of $1.2 billion on sales of $3.8 billion, an operating profit margin of 31%. Only one other packaged goods business regularly produces numbers like that—the tobacco industry. Increases in operating earnings at the Big Four approached 25% last year; Grand Met's IDV unit has a five-year compound growth rate in earnings of 26%. The four

PHOTOGRAPHS BY DAVID GAMBLE

leaders last year produced operating profits of $3.4 billion on sales of $17 billion.

This year the Gulf war and a steep recession in Britain will end that giddiness, although earnings will still improve about 10%. Industry executives see the slowdown as temporary. Says Edward McDonnell, head of the spirits and wine group at Seagram: "Look at IDV, Guinness, ourselves. We've never made more money in our history, and our forecasts are for very dynamic growth from distilled spirits for years to come."

MCDONNELL'S prediction comes despite the knowledge that the world's consumption of liquor dropped about 1% last year, to 525 million cases, in what used to be called the Free World. But declining absolute consumption isn't news to the industry, and more important, it doesn't matter. Argues Anthony Tennant, CEO of Guinness: "Consumption is not actually a very good indicator in any business of whether there are opportunities there." In mature markets such as the U.S., Britain, and Northern Europe, the industry strategy is to accept the fact that consumers are drinking less and try to persuade them to drink better. The byword for this process—invoked relentlessly at all four companies—is trading up.

Guinness rode the trend to glory in the Scotch category, where it now owns 40% of the market with brands such as Johnnie Walker, Dewar's, Bell's, and White Horse. From 1979 and into the 1980s, various independent Scotch bottlers tried to make up for falling sales in the Anglo-American market by cutting the price, a futile policy that probably cost them millions. Says Tennant: "The fact is that the real price of Scotch today in the United States is below the 1970 price."

Guinness stopped trying to persuade consumers to drink more Scotch and set about establishing a position and price for each brand and enforcing consistency worldwide. Says Tony Greener, head of United Distillers Group, or UD, as the spirits unit of Guinness is called: "If you perceive yourself a maker of Scotch, you can sit there in Scotland and make it. But if you are a marketer of brands, you have to think about image and position. This was not a thought that crossed anybody's mind before."

Tennant, first as head of Grand Met's IDV and then as CEO of Guinness, is the prime architect of the industry's new strategy. His strategic coup de main at Grand Met was persuading RJR Nabisco boss Ross Johnson to sell him Heublein Inc. in 1987 for $1.2 billion, a stiff price at the time but a steal in retrospect. Heublein gave IDV 13% of the American spirits market and full ownership of the world's leading vodka brand, Smirnoff, enhancing a portfolio that already included top brands such as J&B Scotch and Gilbey's gin.

BEFORE THE INK was dry on the Heublein deal, Tennant was running Guinness in the aftermath of a scandal that cost the then-CEO of Guinness, Ernest Saunders, his job and, ultimately, his freedom. In 1986 Guinness tangled with Argyll, a supermarket company, in a battle to take over Distillers Co., the leading Scotch whisky company in the world. Saunders and others illegally manipulated the price of the stock in an effort to pump up their company's exchange offer. Distillers went to Guinness, but Saunders went to jail.

The new emphasis on managing a portfolio of brands has made international labels extremely valuable. Seagram surprised the industry in 1988 by outbidding IDV and paying nearly $1 billion to buy Martell, a fading No. 2 in the cognac business. But Seagram was counting on its distribution clout to get Martell into more places than its previous owners, the Martell family, had. Martell was using a number of different labels and a variety of ad campaigns to sell its products worldwide. Worse, the company sold more of the lower, VS quality, than of its best, the XO and VSOP varieties.

Seagram uses one redesigned label, and it refocused the brand on the high end of the market. Last year it launched a worldwide campaign called "The Art of Martell." The faces were changed to match the countries, but the ad message was the same. Something worked; so far this year, case sales are up 9% worldwide. Even better, Martell has helped Seagram increase profits 100% in the Far East.

In the past five years, international brands

THE TOP FOUR AND WHAT THEY OWN

Company	Major brands (category)	World rank	Rank in category	Volume (millions of nine-liter case equivalents) 1989	% change 1988-1989
Intl. Distillers & Vintners (GrandMet)	**Smirnoff** (vodka)	2	1	14.8	5.0%
	J&B Rare (Scotch whisky)	6	2	5.3	6.0%
	Popov (vodka)	15	2	4.0	-
	Baileys (liqueur)	23	2	3.3	13.8%
	Dreher (brandy)	37	3	2.4	60.0%
	Total major brands			29.8	8.4%
United Distillers (Guinness)	**Gordon's Gin** (gin)	4	1	6.9	0.5%
	Johnnie Walker Red (Scotch whisky)	5	1	6.4	2.1%
	Bell's (Scotch whisky)	13	4	4.1	-
	Dewar's (Scotch whisky)	22	5	3.4	-3.5%
	Johnnie Walker Black (Scotch whisky)	27	7	2.9	3.6%
	Total major brands			23.7	0.8%
Seagram	**Seagram's 7 Crown** (American blended)	10	1	4.4	-2.2%
	Seagram's Gin (gin)	17	2	3.8	5.6%
	Chivas Regal (Scotch whisky)	24	6	3.2	6.7%
	Seagram's VO (Canadian whiskey)	29	3	2.7	-3.6%
	Crown Royal (Canadian whiskey)	59	6	1.8	5.9%
	Total major brands			15.9	1.9%
Hiram Walker Group (Allied-Lyons)	**Ballantine's** (Scotch whisky)	7	3	5.1	6.2%
	Canadian Club (Canadian whiskey)	25	2	3.1	-
	Kahlua (liqueur)	30	3	2.6	4.0%
	Beefeater (gin)	45	5	2.2	4.8%
	Teacher's (Scotch whisky)	53	11	2.0	-
	Total major brands			15.0	3.4%

Nearly two-fifths of the top 100 brands are in the hands of the Big Four, and most of their best brands have increased sales. The No. 1 brand, however, is Bacardi, which dominates the rum category. No. 3 is Ricard, made by Pernod Ricard. Ten companies own more than 60% of the top 100 brands.

Allied-Lyons's Michael Jackaman relies on rival Seagram to deliver the goods in France, Germany, and South Korea.

such as Martell have increased sales nearly 15% in a market where total volume decreased. Worldwide sales of the top 100 brands grew 3.7% in 1989 while the market shrank 5.7%. The low-end brands and those of some smaller companies, lacking big marketing budgets, are being forced to swallow the biggest declines. Says George Bull, who now runs Grand Met's IDV division: "If you're in the commodity end of the market, either in spirits or in wine, you are beginning to look as if you could be in some trouble." Grand Met picked up one market share point last year, and now has a 10.6% global share.

The trade-'em-up strategy is getting its stiffest test in the industry's biggest and most problematic market, the United States. In this health-addicted country, overall liquor consumption will decline by about 6.5% in 1991, according to *Impact*—double the rate of previous years. Part, but not most, of the decrease can be explained by consumers' stocking up last year before a big boost in federal excise taxes.

EVEN AS the ostentatious Eighties fade, U.S. consumers are still tending toward behavior that marketers call "purge and splurge." Translation: Aging yuppies cut down on fats, alcohol, and cholesterol, but when they do indulge, it is with a taste for the best. And how else do you know your booze is best unless it costs a lot? Between 1985 and 1990 sales of premium-priced brands, those costing more than $10 a bottle, increased 5% while sales of cheaper stuff fell as much. Sales of trendy products such as Absolut vodka and José Cuervo tequila continue to increase rapidly.

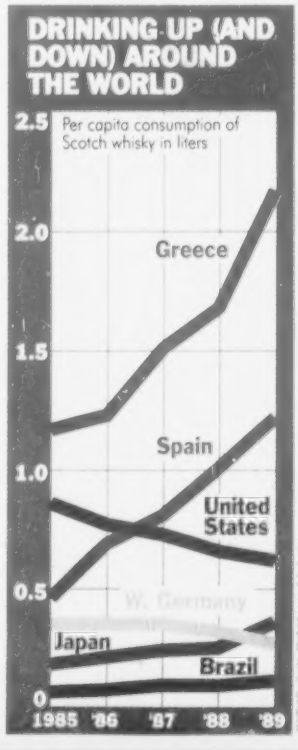
Recently, though, economic woes have appeared to undercut purge and splurge. The second tier or so-called price brands are holding up better than the name brands. Says *Impact*'s Shanken: "The condition in the marketplace is probably as unpleasant as I have seen in my 20 years of watching the industry. There seem to be more sharp declines in sales of leading brands than ever before." Executives such as Allied-Lyons's new chairman, Michael Jackaman, are convinced that consumers will return when the economy does. For now, the industry leaders are holding the price line, unwilling to break ranks and throw the business into a price war. Their forbearance is bolstered by the fact that they own the bargain brands too. But while they haven't trimmed their expectations, both Seagram and Hiram Walker have trimmed their U.S. staffs.

Fortunately for the industry, in new markets shifts in personal income, lifestyles, trade, and tax policy are prompting consumers to switch to global brands. In Southern Europe, for instance, trade barriers that kept whiskey out of Spain fell when that country became part of the European Community. As a result, Spaniards are abandoning their native brandies for Highland malts. Whiskey accounted for 22% of the Spanish spirits market in 1989, up from 9% in 1985, and the figure is rising. Spain is now the single biggest market for Grand Met's J&B and Allied's Ballantine's. Says Greener of UD: "If you look at emerging nations, as they become affluent they [switch] to international products. Scotch is an easy way to demonstrate that you are in that league." He points up the selling angle in all this: "You get more and more people coming into the net. Then you can trade them up further."

The trend has been most pronounced in Japan. When tax barriers fell in 1989, the status-crazed Japanese began switching to Western brands. Now they spend $1,000 a bottle for Old Parr Elizabethan in a hand-blown crystal decanter. Buying habits like that give a whole different meaning to a price war. Notes George Bull, CEO of IDV: "What we're competing about is not to cut our price lower than the competitor. It is actually to keep the price for our brand higher. We're in the image game, and image and price work together."

Even as some markets mature, others develop a thirst for the good stuff. Says Jackaman: "Places like Thailand are very important to us all. Or South America. God knows how many cases of *cachaca* [the local poison] there are in Brazil—17 million or something like that. Slowly, slowly that will change to whiskey or some other developed-market drink."

In fact, a few of the big companies are catching



IDV's George Bull doesn't want to be cheaper than the competition.

Brazil coming and going: Much of the domestic Brazilian market is already in foreign hands. Grand Met's IDV owns Dreher, the top-selling brandy. Seagram is Brazil's leading spirits manufacturer. When government policy shifted in 1990 to allow imports of global brands, the company was ready.

If the big players have a healthy appetite for brands, their hunger for distribution companies is ravenous. It used to be that private distribution companies, not brand owners, held sway over the products in many markets. At Guinness, Tennant wasted little time absorbing, via acquisition, the company's U.S. distributor, Schenley Industries, and its main Japanese distributor. In four years Guinness has increased its control of distribution from 25% of its sales to more than 80%.

Seagram began buying its distributors over a decade ago. Last year it bought control of its Greek distributor and formed a new venture in Taiwan. Explains Bronfman: "Chivas Regal is Chivas Regal, whether you buy it in San Francisco, Hong Kong, New York, or Paris, and you've got to manage your business globally. Your pricing, your sales—everything has to be consistent."

When buying distributors doesn't make sense, the giants get control by forming joint ventures, even with their fiercest rivals. Guinness currently has more than 35 joint ventures, including linkups with Bacardi, which sells Guinness products in South America. The idea is to put a socko sack of brands in the hands of one sales force and have greater clout with retailers while spreading the overhead across two companies. Each company shares in any profits from the distributorship and gets all the profits from its own brands.

One of Guinness's most profitable joint ventures is with LVMH Moët Hennessy Louis Vuitton. It paid $1.8 billion to buy 24% of LVMH in 1988, and LVMH made a reciprocal investment in Guinness. The investment—now worth over $2 billion—gave Guinness a powerful group of new brands for its salesmen to carry and also gained the company a gateway to the Far East, where LVMH's Hennessy is by far the leading cognac. Guinness, in fact, dropped Suntory, the powerful Japanese brewer, as a distributor. Guinness and LVMH also own Schieffelin & Somerset, a big U.S. distributor.

LISTEN TO Allied-Lyons boss Jackaman describe his alliances: "Seagram handles us in Germany and France, and we work with Seagram in Korea. We also have a joint venture in Australia with IDV. Yet we represent Benedictine in the U.S.A., while IDV works closely with Cinzano. We represent Drambuie in the U.S., yet we're competitors with Drambuie." Allied also owns 28% of Pedro Domecq, Spain's leading brandy maker, with whom it has distribution agreements in South America and Southern Europe.

Allied's most interesting linkup is with Suntory, Guinness's former partner, which is now Allied's distributor in Japan. Suntory, Japan's largest domestic whiskey maker, is losing the protection that import duties once provided its products. Japan's consumers are switching to Western cognac and whiskey, and Suntory has none of its own to sell. Allied, on the other hand, needed a Japanese partner with clout, particularly after Guinness set up with LVMH. Japanese sales of Allied's flagship Courvoisier cognac have doubled since the linkup with Suntory, which Jackaman claims has the Japanese industry's top sales force.

There is, of course, an inherent contradiction in these joint ventures. "Would Jaguar have Mercedes distribute its cars in Germany?" asks Lehman's Wakely, paraphrasing Tennant. Such is the case in France and Germany, where Seagram, the owner of Chivas Regal Scotch and Martell's cognac, handles Allied's Ballantine's Scotch and Courvoisier cognac. Seagram avoids that conflict by creating yet another one: two competing sales forces. Each hawks a mixed bag of Seagram and Allied brands. For now, Jackaman is philosophic about the situation. "We're accustomed to working with our competitors, and I don't mean in any collusive way. We compete very fiercely one with another, but once you're in this kind of arrangement, it's rather difficult to get out."

The industry's thirst for acquisitions and joint ventures shows no signs of abating. Guinness needs a vodka, Seagram would like a couple of liqueurs, Grand Met could use a belt of cognac. It will cost them dearly. Allied, for instance, paid 25 times earnings in 1990 to buy the spirits business of Whitbread & Co., a British brewer, to get at another world brand, Beefeater gin.

The liquor business will continue to be pressed by higher taxes, increasing regulations, the health lobby, and a revitalized temperance movement, particularly in the more developed countries. And the U.S. and Northern European markets will continue to decline. But because of the strategy the liquor players have devised, what seems like discouraging news isn't.

"Everything you think of as bad for this industry is good for it," argues Wakely. Tax increases on alcohol may hurt volume, but they encourage consumers to trade up, thus reducing price competition. If advertising is prohibited, the money targeted for it will drop straight to the bottom line. And every new attack on booze does more to ensure that no new competitor would even think of joining the fray: not Nestlé, not Unilever, not PepsiCo, not P&G. That's something any executive would raise a glass to. F

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FORTUNE

"Loyalty between the corporation and its managers extends only as far as the next paycheck."

PAGE 70

ABOVE: Ray Grassman (left) spent years getting a college degree to ensure his future—then made a career move from Hillenbrand to Reynolds & Reynolds in Dayton. Photo by Rob Kinmonth.

COVER: Watercolor by Marc Rosenthal.

EXECUTIVE LIFE/COVER STORIES

MORALE CRISIS 70
The people who used to be the brass's most reliable backers—middle managers and other white-collar workers—now feel disenfranchised and cynical. What's an employer to do? *by Anne B. Fisher*

CEOs THINK THAT MORALE IS DANDY 83
Are there unhappy managers out there? Not at my company, says the typical corporate chief. But the top guys are trying to improve communication. *by Anne B. Fisher*

TAKE CONTROL OF YOUR CAREER 87
Keeping your job has become a job in itself, as thousands of laid-off managers now realize. You can avoid joining them by making the right moves today. *by Kenneth Labich*

CORPORATE PERFORMANCE

THE BILL IS DUE AT AMERICAN EXPRESS 99
Growth was so easy for the company in the 1980s that it lost touch with its customers. Now it must woo them back. *by Bill Saporito*

HOW DOES REED HANG ON AT CITI? 115
The bad news keeps rolling in for America's biggest banking company, but the CEO says he's still the "best guy" to run Citicorp. *by Carol J. Loomis*

THE ECONOMY

LESSONS FROM THE RECESSION 127
It has laid bare the economy's strengths and weaknesses. Washington should work on those instead of promising quick fixes. *by Rob Norton*

DESIGN

OFFICE BUILDINGS FOR THE 1990s 140
Architects have shifted from glitzy skyscrapers to sensible suburban complexes. Wise companies are putting up structures that help their employees work better. *by Mark Alpert*

MANAGING

'SUCCESS DEPENDS ON LEADERSHIP' 153
At Union Pacific, Michael Walsh proved he knew how to run a railroad. Now he's trying to work his managerial magic on Tenneco, the unwieldy Houston conglomerate.

COKE'S PLAN TO PUMP UP THE VOLUME 157
Coca-Cola has misstepped in the U.S. market. The company and its biggest bottler are betting on new managing and marketing talent to re-energize sales. *by Patricia Sellers*

"In times of stress, communication has to increase exponentially or you won't survive."

PAGE 83

"When I articulate what I'm looking for in my job search, it is much more in terms of how they value their people."

PAGE 87

"I've asked myself if I'm the right guy to do this, and I hate to tell you, I think the answer is yes."

PAGE 115

"More than one day a week in the office, you keep holding meetings, and that screws up everybody else's life."

PAGE 153

"Democrats have managed to cancel out Bush's vulnerability on the economy by their own ineptitude."

PAGE 161

"We don't ride the waves of our markets. We make the waves."

PAGE 169

POLITICS & POLICY

HOW GEORGE BUSH COULD LOSE 161
The best hope for Democrats? An economy that turns out weaker in 1992 than most forecasters now predict. *by Ann Reilly Dowd*

TECHNOLOGY

TECHNOLOGY TO WATCH 166

SELLING

A BORING BRAND CAN BE BEAUTIFUL 169
Most companies spend like crazy on new products. General Mills shows that greater profits can lie in rejuvenating old ones. *by Patricia Sellers*

COMPETITION

LET'S LEARN FROM THE JAPANESE 183
They're in for the long term, and they band together in ways the U.S. forbids. Play the game their way, argues a top economist. *by Lester Thurow*

INNOVATION

PRODUCTS TO WATCH 188

MONEY & MARKETS

CAN YOU TRUST THAT AUDIT? 191
The government doesn't. Here's what's being done to audit the auditors. *by Rahul Jacob*

THE SOCIETY

AMERICA WON'T WIN TILL IT READS MORE 201
Reading is strongly linked to the skills every country needs to compete. *by Stratford P. Sherman*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12
America's next tax revolt: "The movement is bubbling." Muscovites dine on the First Lady, how to beat Japan, whether car leasing will backfire, more pension cash goes overseas, the Nobel Prize's ups and downs, and more.

FORTUNE FORECAST 29
Though some jobs are gone for good, employment will rise again. *by Vivian Brownstein*

Economic Intelligence: Arguing against a looming world capital shortage, and accounting for America's wage polarization.

PERSONAL INVESTING 37
Boosting your yields with the new adjustable-rate mortgage funds. *by Andrew Evan Serwer*

Also: Growth at a discount at Commodore International, last-minute moves to lower your taxes, and Portfolio Talk with Lawrence Auriana of the Kaufmann Fund.

LETTERS TO FORTUNE 66

FORTUNE PEOPLE 221
Wanted: an actor to play Henry Kravis, an American woman as a Japanese boss, a CEO at odds with the talent on Madison Avenue, a den of lawyers, and more. *by Andrew Erdman*

KEEPING UP 227
A cop-out in Hollywood, on getting it, great moments in academic research, staying in bed in Sweden, and other matters. *by Daniel Seligman*

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EDITOR'S DESK

Writer Saporito and American Express Chairman James Robinson

IS ANYBODY up there *listening*? We mean way up there, on the top floor, where all the brass sit. Maybe not.

As evidence, first see our cover story. Writer Anne Fisher describes the gale-force morale crisis in the workplace. But our poll of more than 200 CEOs shows that they think it's a breeze. Then there's American Express, whose management was blindsided by trouble with its Optima card and in the core Travel Related Services division, one of the great profit engines in the history of business till now. Third, there's more bad news from Citicorp. For the second time in a year, America's biggest bank has had to take big hits against earnings.

Carol Loomis

FORTUNE's Bill Saporito started looking into the problems at American Express this summer. That meant he was standing at ground zero when CEO James Robinson dropped the October bombshell that the company was writing off $265 million in bad debts and restructuring charges. Trouble shouldn't have come as such a surprise, believes Saporito, who has chronicled the credit card wars in three major stories in the past 14 months. Says he: "Amex had lost touch with its customers—cardholders and merchants—and didn't know it. The managers were arrogant, something they own up to now."

Business people love to read about success and to learn from triumphs. But there are lessons aplenty in Amex's difficulties, says Julie Connelly, who edited Saporito's story: Stay close to your customer, know what distinguishes you from the competition, and face the facts.

Meanwhile, at Citicorp, Chairman John Reed could use some cheer. Carol Loomis reported its difficulties in a prescient story in January, after Citicorp reduced its dividend, took big special charges, and sang the song that from now on things would be better. Nine months later the company had to announce more special charges and, in a stunning development, elimination of the dividend.

Loomis, who has the most valuable Rolodex in business journalism, spoke with a string of well-placed sources to find out what went wrong—and then landed a timely interview with Reed. Says Loomis: "This company has always revered growth and has never cut costs before. John Reed is absolutely committed to making a U-turn—but what a difficult job it is." To see how difficult, read Loomis's revealing story on page 115.

Marshall Loeb

MANAGING EDITOR

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ment pays U.S. producers hard currency for the poultry. In the 16 months since the buying began, the country has imported some 500 million pounds, about 13% of the total U.S. kill.

So far no reaction from Mrs. Bush. But a spokesperson says, *"Bon appetit."* **– Paul Hofheinz**

Getting a jump on the season in London

EUROPE STARTS CHRISTMAS

■ If you think your local stores are lighting up for Christmas earlier than ever, pity the Europeans. In Britain, workmen in Plymouth were stringing up the holiday lights in 80 degree temperatures in mid-September.

You're already out of luck if you were planning Christmas lunch at London's Ritz Hotel. It's booked. And hurry if you want to sign up for the Ritz's two-night, $1,955-per-couple Christmas package, which includes a trip down the Thames, dancing in the hotel's Palm Court, and Scottish pipers at midnight. The place is running out of rooms. Peter Jones department store in trendy Sloane Square had a tree on display by mid-October.

Britain isn't the only place that's rushing the season. In Paris, for example, the popular Galeries Lafayette rolled out Christmas in its toy department on October 18.

Why so early? "Greed," says Trevor Turner, executive director of London's Bond Street Association. "We're not privileged to have the dividing line of Thanksgiving on this side of the Atlantic."

Others point to the recession. Says Angus Blair, a retailing analyst at Baring Securities in London: "There is no shame in putting up Christmas lights a few months early given the economic climate."

– Carla Rapoport

HOW TO BEAT JAPAN

■ "We will beat the Japanese every time." So says **Bell Atlantic** Chief Executive Raymond W. Smith. That's strong talk from the head of a company that, like the other Baby Bells, is fighting slow growth in its core telephone business and looking for new markets overseas, where Japan competes.

Smith, 54, thinks *all* of U.S. industry will prevail against Japan. His contrarian view: Japan's homogeneous work force, far from being the competitive edge that many proclaim, is an Achilles' heel. By contrast, he says, the diversity of America's labor pool is the key to beating the competition, provided U.S. education improves. Says Smith: "If you take a roomful of Carnegie-Mellon engineers like me, you're going to get a particular slant on solutions. But with a diverse group in terms of race, age, and sex, you'll get a much better array of options."

The Bell Atlantic CEO overestimates his own homogeneity. He writes plays, one of which, *The Fetal Pig*, a comedy, was produced in Philadelphia, Bell Atlantic's home town, in 1987.

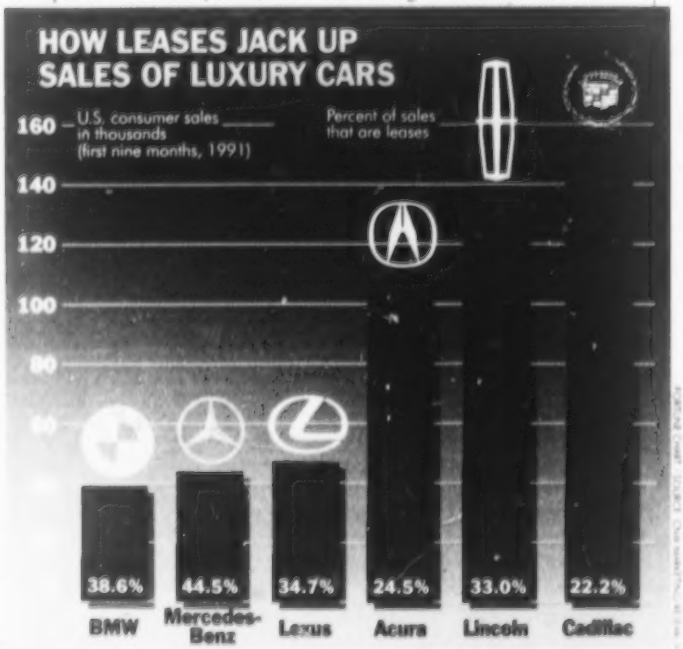
Bell Atlantic CEO Smith: Diversity gives the U.S. a competitive edge.

Japan isn't the Baby Bells' only competitor. The cellular phone business, where real growth potential lies, is a jungle. Bell Atlantic has made a $2.5 billion offer for **Metro Mobile**, a New York City cellular company. But it must contend with a national cellular network just announced by **McCaw Cellular Communications**. Happier news for the Baby Bells: an FCC proposal that they be allowed to carry TV programming to homes. That would put them in competition with cable companies. **– Antony J. Michels**

WILL CAR LEASING BACKFIRE?

■ The Big Three U.S. automakers, which are expected to lose a total of $6 billion this year, are trying to gain customers by pushing leases as an alternative to direct sales. So, too, are foreign competitors (see chart for how this affects sales of some luxury cars, where leasing is most popular).

But the strategy, which sets rates according to how long a customer will use the car and its resale value at the end of the lease, can backfire—hurting not only the automakers but also banks and other lessors. According to Bank Lease Con-



Woodrow Wilson
1919 Peace
Prize: $34,003
In 1991 dollars:
$265,905

Ernest Hemingway
1954 Literature
Prize: $35,135
1991 value:
$295,316

Martin Luther King
1964 Peace
Prize: $52,906
1991 value:
$316,325

Milton Friedman
1976 Economics
Prize: $160,235
1991 value:
$373,881

Robert Solow
1987 Economics
Prize: $341,981
1991 value:
$478,145

Ronald Coase
1991 Economics
Prize: $972,447

THE NOBEL PRIZE'S UPS AND DOWNS

■ When Alfred Nobel established the prize that bears his name, he wanted the award to maintain a consistent value. But after adjusting for Swedish inflation and converting into 1991 dollars, it turns out that until this year, every winner since 1901, when the award was first bestowed, has been stiffed. Of the six laureates shown here, only University of Chicago professor emeritus Ronald Coase, who'll receive nearly $1 million as the recipient of the 1991 prize for economics, gets a purse equivalent to the original award.

By 1953, the value of the prize had dropped 70%. Explains Åke Altéus, deputy executive director of Stockholm's Nobel Foundation: Trustees interpreted Nobel's will to stipulate that the 31.5 million kronor—$196 million in today's dollars—that he left to fund the prize could be invested only in Swedish government bonds. They modified this in 1953 and moved the capital into a broader range of investments. But by 1987 the award was still worth less than half its original value. So the trustees spun off the foundation's commercial real estate holdings into a public company. The stock offering raised almost $100 million. Since then, the fund has increased its prize money by 176%. In the future, the trustees plan to increase the awards to keep pace with inflation.

MIT economist Robert Solow, 67, a winner in 1987, avers that he has no regrets about receiving a prize that earned him $341,981 rather than the $1 million it's worth today. Instead, he bemoans the demands on his time that are brought on by international celebrity. Says he: "People call you up with all sorts of questions. You become a kind of automatic authority on almost everything, and it takes a certain amount of self-control to remember that you really know only a limited number of things." **–R.T.**

sultants of San Leandro, California, resale values for cars leased three to four years ago have dropped up to 18% more than predicted when the leases were drawn up. As a result, says Bank Lease executive VP Randall McCathren, lessors are losing an average $1,300 on each car returned in 1991. He estimates that some luxury imports returned this year are worth $8,000 less than predicted.

Still, manufacturers believe more leasing makes sense in the long run. They're betting that it will expand their customer base and increase customer loyalty. This would ultimately benefit the carmakers when they return to profitability. Meanwhile, low rates and attractive financing are pulling customers in.

Even so, Detroit and foreign automakers are only digging deeper trouble for themselves if resale values don't rebound. Warns McCathren: "Residual values of leases signed this year stand a fifty-fifty chance of being overstated." **–Rick Tetzeli**

MORE PENSION CASH GOES OVERSEAS

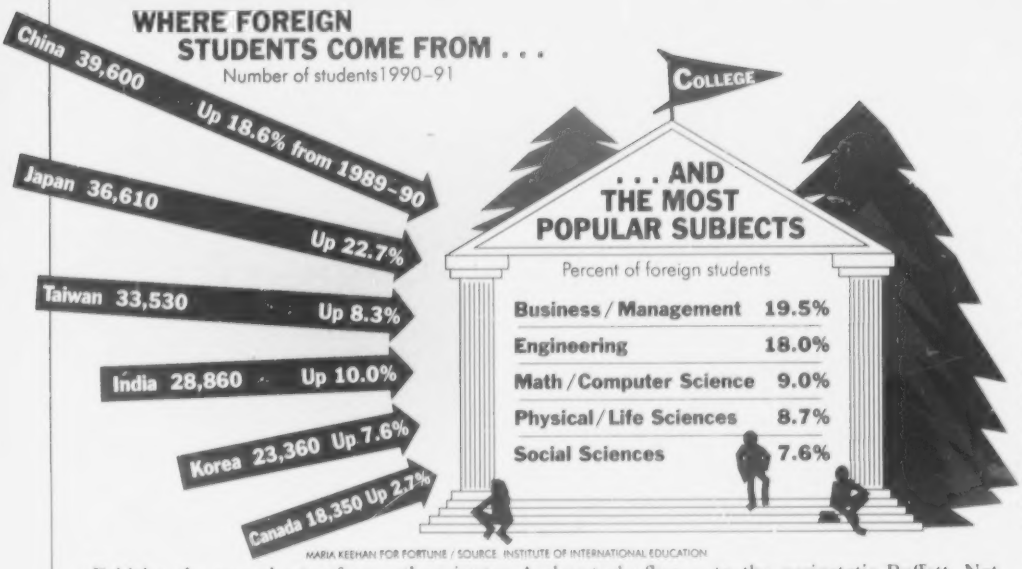
■ Seeking a better bang for their buck, a growing number of U.S. pension fund managers, including those at **GTE**, **IBM**, and **Sears Roebuck**, are putting bigger chunks of the $2.7 trillion in assets they control into foreign stocks and bonds. Greenwich Associates, a Connecticut research firm that tracks how some $1.8 trillion of this money is deployed, estimates that the percentage of corporate and public pensions invested in international stocks will nearly double by 1993. (See chart for how corporations are moving funds.)

Besides the higher returns often available overseas, there is another reason for going abroad. Gunter Ecklebe, senior VP at Frank Russell, a Tacoma asset allocation consultancy, says pension managers want to diversify risk. Foreign markets rarely move in tandem with those in the U.S. There are exceptions, though, including the 1987 Wall Street crash that reverberated at exchanges around the world.

John Carroll, president of the investment management group at GTE, has placed 19% of the company's $12.4 billion pension fund in foreign stocks and bonds, up from 3% in 1984. He aims to increase that proportion to at least 25% within 18 months. Carroll says that although U.S. capital markets have outperformed other world markets in the past two years, pensions must take a long-term approach to investing and focus on economies and markets that are growing faster than America's. Says he: "It's quite pretentious for a U.S. investor to think the U.S. market is going to be the best performing in the world every year for the next 20 years." According to Frank Russell's

A CHANGING MIX FOR PENSION FUNDS

FORTUNE CHART; SOURCE: GREENWICH ASSOCIATES



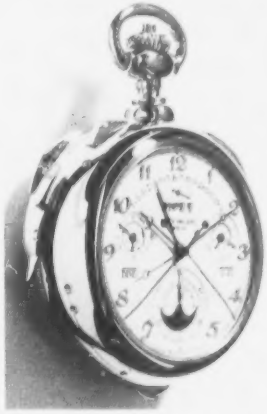
Ecklebe, the annual rate of return from 1986 through 1990 for some 1,000 foreign stocks was 18.7%, vs. 13% for comparable stocks of about 3,000 U.S. companies.

The billions going offshore can deprive U.S. companies that need financing to stay competitive—or in business. But, says Carroll, "I have a fiduciary responsibility to invest the GTE pension fund prudently and legally. Investing in overseas markets is both." **– A.J.M.**

PSSSST! WANNA $5 MILLION WATCH?

■ Switzerland's **Patek Philippe** is hawking the most expensive watch ever made—a $5 million pocket timepiece that took nine years to make. Weighing in at two pounds and finished in rose gold, the so-called Calibre '89 has a 126-jewel movement, a stopwatch, and 24 hands (one of which tracks the date of Easter through the year 2046), among other embellishments. It also has two faces. One is traditional. The other has a moving map of the heavens so the lucky owner can keep sidereal time. Another extra: The owner can set it to chime not only the hours but the minutes. And no tacky fluorescent hands for this turnip.

To give Americans a glimpse of the watch, Patek is taking it to Omaha for an exhibition in April at Borsheim's Jewelers, owned since 1989 by Warren Buffett's **Berkshire Hathaway**. Fellow travelers to the show include various antique timepieces from Patek's private collection. Among them: pocket watches owned by Queen Victoria, Albert Einstein, and Rudyard Kipling. Hank Edelman, VP of Patek's U.S. operations, insists that the goal of the exhibition isn't to sell the watch to the peripatetic Buffett. Not that the billionaire's time isn't becoming ever more squeezed. Besides trying to rescue **Salomon** from scandal and overseeing his investment empire, Buffett recently taped an appearance on ABC's *All My Children*, as a tycoon dispensing business advice. Also guest-starring in the same segment of the soap: Buffett's good buddy Thomas Murphy, chairman of **Capital Cities/ABC**. **– R.T.**



For the retiree who has everything

MORE FOREIGNERS AT U.S. COLLEGES

■ Almost 37,000 Japanese students were enrolled in U.S. colleges and universities during the 1990–91 academic term, a 22.7% increase over the previous year. The total number of foreign students on U.S. campuses rose 5.3% to 407,529 over the same period. (See chart for where some of these students came from.) For the second year in a row, business and management was their No. 1 choice as a subject after engineering's 40-year reign in the top spot.

Who's picking up the tab? At Northwestern's J.L. Kellogg School of Management, where 18%, or 198, of the 1,100 MBA students are foreign, 26 have their $17,800 tuition paid by their employer back home; ten are on Fulbright grants. The rest are responsible for their own fees, since Kellogg provides financial aid only to Americans. Of all 407,529 foreign students in the country, about 65% are paying their own way, 20% get funding from the school they attend, and the other 15% are receiving assistance from other sources, including the U.S. government, which subsidizes about 8,000 of them.

Wouldn't the school scholarships and taxpayer money be better devoted to Americans needing a college education? Yes, says Frank L. Morris, dean of graduate studies at Morgan State University in Baltimore, which has a predominantly black student body. He argues, "We're providing opportunities for foreigners we're not providing for minorities." **– A.J.M.**

NOW HEAR THIS

■ **KENNETH OLSEN,** 65, president of Digital Equipment, translating the microscopic inscription that company engineers inscribed on chips in Digital computers used in the Soviet Union, where manufacturers sometimes rip off imported technology: **"Hi, Comrades. When you care enough to copy the very best."**

■ **DR. RUTH WESTHEIMER,** 63, a sex therapist, to a group of men and women at a Manhattan dinner party, on the Clarence Thomas–Anita Hill sexual harassment imbroglio: **"Unfortunately, it will make men much more timid about flirting around the water cooler."**

LETTERS TO FORTUNE

IN DEFENSE OF LBOs

You make some valuable points in "The Deal Decade: Verdict on the '80s" (August 26), and I hope you and others will persist in completing this research and in drawing distinctions among participants' outcomes. It is important to understand what has worked, what hasn't, and why.

LBOs and hostile takeovers began as a response to poor investment returns. The properly organized LBO involved a stable, mature business that by its nature generated more cash than it used and therefore was properly capitalized with a fair amount of debt. When one hitched this profile to a combination of professional ownership, management ownership, and financial leverage, one could expect better balance sheets and operating cost management.

Because this model worked so well, the firms making up professional ownership groups developed leveraged buyouts as an asset class for institutional investors. And so for the better part of a decade, many of the LBO firms have had to hold themselves to the standards of those institutional investors—standards that previously had not been satisfied by managements and their boards.

Commentators generally have not distinguished between professional investor groups who managed capital, kept their focus on appropriate companies, invested their own capital, and insisted on management capital as well—aligning investor interests—and all those others, ranging from risk arbitragers to raiders to investment banks to corporate managers trying to preserve their independence, who undertook LBOs in the second part of the 1980s largely because the money was available.

I feel we have been tarred with the brush of failure by your article, yet we know we have met the test of providing superior investment returns to insureds and pensioners as well as to ourselves. KKR, Forstmann Little, and others have published their superior returns. So at least in the minds of one small group of people, leveraged buyouts have met the most objective measure of corporate success.

CARL FERENBACH
General Partner
Berkshire Partners
Boston

WHERE DO WE GO FROM HERE?

Your Education Special Report (October 21) should be a regular feature. There are kids going to schools that lack working toilets, kids who think of books that arrive halfway through the school year as Christmas presents, not part of their birthright. There are teachers trying to teach immigrant children and being penalized for speaking in the immigrant language or trying to teach them reading without bilingual aides (who have been lost to budget cutbacks). Thousands of children stay home every day to watch younger siblings so that their working poor parents can go to their jobs.

"Children stay home every day to watch younger siblings so that their working poor parents can go to their jobs."

Kids who can't read grow up unable to vote intelligently. They can't take care of *their* kids because they can't read labels. They can't complete job applications or even read bus schedules to get to a hiring office.

Where *I* go from here: Thanks to your table in "How Business Helps the Schools," I've added another consumer-friendly category to the list of companies whose products I will support as a consumer or otherwise invest in—those with four or more dollar signs for educational support after their names.

CELIA COFFIN MOREY
Volunteer
Board of Directors
Reading Is Fundamental Inc. of Southern California
Los Angeles

I had always assumed that if we threw enough money at it, the quality of education must escalate. Wrong! The chart in "For States: Reform Turns Radical" shows that Iowa is No. 1 in scores and No. 3 in its graduation rate, but 36th in average teacher salary and 28th in average pupil expenditure. Meanwhile, Washington, D.C., is No. 50 in graduation rate and 22nd in scores, while the average teacher salary is an extraordinary No. 3, and expenditure per pupil is No. 1. Quality does not always relate to dollars.

GEORGE ELMSTROM
Carmel-by-the-Sea
California

A CAPITALIST CORPS

Re Ann Reilly Dowd's suggestion that the U.S. build "something like a Capitalist Corps, fashioned after the Peace Corps" ("How to Help the Soviets," October 7): Something similar, run by the Institute for Applied Economics, a public charity in New York City, already exists. It brought several Soviet executives to the U.S. this summer for on-the-job training in major U.S. companies. Plans call for 100 Soviet executives to participate in this program this year and 500 within five years.

JOHN M. CLYMER
Director of Development, the Leadership Institute
Springfield, Virginia

FORM AND FUNCTION

IBM did the PC right ("The Future of the PC," August 26); had it made the personal computer closed and proprietary, it would have met with the same kind of end-run as its proprietary mainframe. In the 1930s, Antoine de Saint-Exupéry said a machine becomes a part of society when it "loses its identity in its function." If IBM doesn't lead in this parade, it will be run over by it.

MYRDDIN L. JONES
Vice President for Marketing, Apris Corp.
Malvern, Pennsylvania

CORRECTIONS

In "For States: Reform Turns Radical" (October 21), the fourth column in a table titled "The Nation's Report Card" was not aligned with the corresponding data. The Pupil/Teacher Ratio rank for each state beginning with Florida and ending with Washington can be found on the following line: Washington, D.C., should be ranked No. 2.

Also, in the 1992 Investor's Guide, through a production error we printed an incomplete version of a table that appeared in "Nailing Down Tax Savings Now." The correct version is printed below. FORTUNE *regrets the errors.* F

WHY THE TAX RATE TOP DOESN'T STOP

TAXABLE INCOME (after deductions and exemptions)	TOP MARGINAL TAX RATE	COMMENT
Up to $34,000	15%	If you're a married couple filing jointly and your taxable income falls into these ranges, calculating your top tax rate is a breeze. If your income before deductions and exemptions is above $100,000, though, the rules change.
$34,001 to $82,150	28%	
$82,151 to $100,000	31%	
TWO CASE STUDIES ABOVE $100,000		
Income before deductions and exemptions: $150,000 Married filing jointly No children	31.93%	You lose 3% of the value of your itemized deductions on income above $100,000. Assume this couple had deductions worth $20,700. The phase-out adds $621 to their taxable income and raises their top rate by nearly a percentage point.
Income before deductions and exemptions: $175,000 Married filing jointly Two children	34.06%	You also lose 2% of the value of personal exemptions on every $2,500 of income above $150,000. Assume this couple had deductions worth $41,400. The 3% phase-out plus the limit on exemptions lifts their top rate by over three percentage points.

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MORALE CRISIS

Job satisfaction among middle managers is hitting new lows. What's an employer to do? ■ *by Anne B. Fisher*

TIME WAS, making it into the managerial ranks used to mean something: a sense of accomplishment, a bit more confidence about the future, greater identification of oneself with one's employer. Not so much anymore. Steadily growing legions of supervisory types, their livelihoods endangered by cost cutting and recession, are angry, distrustful, stressed out, and scared.

Like lieutenants in the army, these are the people who translate the generals' commands, squad by squad, into movement on the ground. But their demoralized state of mind today is not at all conducive to improving productivity or increasing quality—let alone innovating. All too often, the people who used to be the brass's most reliable backers—middle managers, professionals, and other white-collar workers—now seem to feel more disenfranchised and cynical than the hourly folks. And because of their perception that the upper echelon has turned on the underlings, the white-collar blues won't go away anytime soon, economic recovery or no.

Signs abound of how bad things have got-

MIDDLE MANAGERS RATE THEIR COMPANIES

Percent who expressed a favorable attitude on:	1985–87	1988–90
Information given to employees	85%	69%
The ability of top management	54%	38%
The company as a place to work	65%	55%
Companies treating them with respect as individuals	51%	43%
Top management listening to their problems and complaints	42%	35%
Their pay	47%	52%

Based on a survey of 750,000 middle managers by Hay Research for Management

FORTUNE CHARTS

ILLUSTRATION BY MARC ROSENTHAL

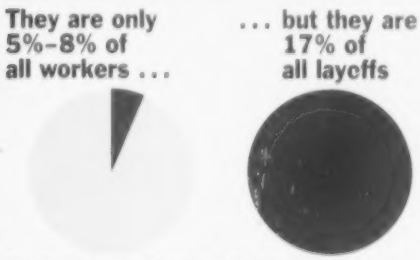
ten around the office. To take just one: The Roper Organization in New York City has been polling some 1,200 employees every few years for a couple of decades. Today the firm finds job satisfaction in America at its lowest ebb since it began its surveys. This recession differs from previous ones, says Bradford Fay, a Roper researcher, in that middle managers now are "screaming." One reason: "Attitudes toward mergers have soured as people see those at the top getting generous pay, perks, and golden parachutes, while everybody else fears getting laid off."

Middle managers have more reason to fear layoffs than do hourly employees. The American Management Association has conducted annual surveys on downsizing among some 1,100 of its member companies and found that while middle managers make up only 5% to 8% of the work force, they account for 17% of all dismissals in the past three years. The research also shows that thousands of companies have downsized more than once since 1988.

With fewer managerial bodies around, those left often end up working harder and longer. Swain & Swain, a consulting outfit in New York City, uses surveys of 200 employees at five FORTUNE 500 companies to study a dozen "coping mechanisms" in corporations. The firm has found that the two most essential are now, unfortunately, the weakest. These are "situation mastery," whereby people feel they can handle what they must do, and "positive outlook"—what most people except psychologists call hope. Both are all but gone. "Everybody is exhausted, and nobody really thinks things are going to get better," says Robert Swain. "They're hanging on by their fingernails."

In seminars, Prudential explains to its managers that now they're responsible for their own careers.

MIDDLE MANAGERS LAID OFF



Based on a survey of some 1,100 companies by the American Management Association

The American Management Association defines middle managers as everyone between first-line supervisors and senior management. After all that restructuring, they think less of the brass, but fewer complain about pay than before.

Many have concluded that restructuring will never stop. Even companies that have already cut thousands of white-collar jobs, like Citicorp, Digital Equipment, General Electric, and Eastman Kodak, continue to hack away. And while it's fashionable for the fellows at the top to talk about empowerment, middle managers often feel *less* able to make decisions. Try spending the whole day saying no to the valued people under you—especially "No, we can't try anything that might cost money, including keeping you on here"—for a sense of how isolated, powerless, and thankless the middle manager's job feels now. "Fear is rampant in the workplace," observes Robert J. Kriegel, a consultant and author of a book called *If It Ain't Broke . . . Break It!* Fear, he says, creates a "white-collar sweatshop. It drives stress up and quality down."

IF YOU ARE THE CEO or division head, you may be assuming, or at least devoutly hoping, that the people under you blame the recession, the Japanese, or some other distant, nebulous villain. Think again. Increasingly, they blame you. The Hay Group, a Philadelphia consulting firm whose clients include American Airlines, Disney, GE, Chase Manhattan, Maytag, and other heavy hitters, has over time surveyed 750,000 middle managers in 1,000 big corporations. The firm's research indicates that between 1987 and 1990, the white-collar legions' most common estimation of their bosses' overall abilities has dropped from "generally high" to "frankly, awful."

High-octane CEO salaries and perks have ignited plenty of public indignation, but in middle managers' eyes, money isn't the point. Most say they wouldn't begrudge the big guy his big bucks if he seemed to know what he was doing. The course of restructuring—all the merging, downsizing, and demassifying that has contributed to the elimination of 3.4 million jobs from the payrolls of the FORTUNE 500 industrial companies in the past ten years—has failed to produce the kind of results that might bolster faith in top executives' judgment. This spring the Cresap division of the consulting firm Towers Perrin asked about 350 senior managers in 275 major companies, together accounting for 26% of U.S. gross national product, whether they thought their cost-cutting programs or restructurings had achieved what they had hoped. Half said no.

Another study, by consultant Wyatt Co., found that in 1,005 corporations where restructurings had occurred, most senior executives admitted their companies had missed the mark in one way or another. Fewer than half met their cost-reduction targets, despite much bloodletting. This, they reported, was often because they had cut people without reducing workload, so that pricey outside contractors, and sometimes new full-time hires, had to be called in to take up the slack. Only 32% raised their profits to a level they thought acceptable, and just 21% improved return on investment to any ap-

preciable degree. A full 58% thought that employee morale was battered by the changes, and 37% said they were having trouble persuading survivors to stick around. (The people at the very top, the CEOs, don't seem to have picked up on this, though; see the following story.) A wistful 87% confided that when they offered early-retirement packages as part of restructuring, they lost star performers they counted on keeping.

TOP MANAGEMENT'S next, and perhaps most unexpected, worry is how to prevent valued middle managers from stampeding out the door when they finally see a bit of blue sky in the economic picture. Some experts say that even before the recession has been declared officially over, they detect signs of impending managerial flight from outfits battered by restructuring. "You can cut down to the bone, and most companies have," observes John Hinrichs, president of a Darien, Connecticut, consulting firm called Management Decision Systems. "The question in the next five years is, How are you going to keep the bone?" No reliable statistics exist to show how many people jump ship each year, but executive recruiters report their offices are flooded with résumés of talented middle managers eager to quit their jobs.

"Nine or ten times as many people are coming to me now, compared with a few years ago, saying they want out," observes Dee Soder, president of a New York City consulting and career-counseling firm called Endymion. Soder says her restless clients earn upward of $200,000 a year. More money isn't what they're after. "These are stars. Their bosses want to keep them," she notes. "But they don't trust their bosses."

"You can cut to the bone . . . The question in the next five years is, How are you going to keep the bone?"

Where will itchy managers land? Letitia Chamberlain, director of the Center for Career and Life Planning at New York University, says most of the 1,000 or so white-collar people her counselors see each year say they want to move to smaller companies, where they hope to achieve more control over their careers. As early as 1989, a survey by the National Opinion Research Center found Americans leaning toward self-employment or joining a small shop. Says NORC researcher Tom Smith: "This desire is interesting, when you consider that benefits and pay are generally better in big corporations, and most people know that. But there is a definite antipathy toward bigness."

Some dissatisfied managers are exploring career options that didn't exist ten years ago. Joseph Valenta, 57, a Ph.D. in biochemistry with a degree from Wharton, spent 29 years running various research projects at SmithKline Beckman. When the pharmaceutical biggie merged with the British company Beecham in 1989, Valenta and several others in the upper-middle-management ranks were given a choice: Move to England or take early retirement.

He chose the latter. The experience left him with feelings commonly expressed by middle managers these days. "SmithKline lost many excellent people for the wrong reasons," he says. "It's a sad thing. Loyalty between the corporation and its managers extends only as far as the next paycheck. The top people are riding on the backs of the mid-level people, and they think that's appropriate. But middle managers are waking up now, and things are going to get rocky." He adds, "In my career I gave up a lot of personal plans—anniversary parties, vacations, and so on—for the sake of the company. I wouldn't do that today, because I've realized all the loyalty and sacrifice was going one way only."

Now Valenta is calling his own shots. He's currently on a nine-month management assignment for a small biotech operation, a division of Johnson & Johnson, and loving it. When this stint is over, he'll move on to another temporary job elsewhere.

Thousands of managers around the country are doing the same thing, as the so-called interim-management business picks up steam. Karin Bergwall, 47, is president of Princeton Entrepreneurial Resources, a firm in Princeton, New Jersey, that maintains a database of 4,000 managers seeking temporary jobs—overseeing a short-term project, for example, or helping launch a new product or reorganizing a department. An interim manager's contract typically provides a salary, without benefits, for a specified period, although some stay on permanently with a company if they find a good fit. "The whole interim-management industry is built on the disenchantment of middle managers," says Bergwall. "People come to us because they feel powerless over their careers in big companies." Although her firm doesn't advertise or otherwise promote its

Hyatt finds that listening to employees, as at this session in Chicago, helps boost customer satisfaction.

services, she says that word of mouth brings in 500 new résumés a month.

Suppose you would rather keep your best middle managers than see them toot off to temping. What can you do? A few companies have found ways to empower people for real, even in the midst of economic bleakness. Much of what works best is so commonsensical, so *obvious*, that it tends to get overlooked.

Too often, the experts say, top management focuses its concern only way down below, in the hourly and clerical strata, telling the folks in the middle, "We're empowering you to fix this," while forgetting that in tumultuous times middle managers already have additional problems aplenty. "The best companies concentrate on managers' concerns *first*," says Peter Gelfond, who directs research at the Hay Group. "Otherwise you get what I call supervisory scapegoating. The manager conveys, either in words or attitude, to the people under her or him, 'Top management doesn't give a damn about me, so they probably don't really care what happens to you either.' "

Toro's Fournier (left) and Melrose let employees structure the restructuring.

TO ACHIEVE real empowerment, and improve morale in the middle, follow three basic steps. First, find out what people are thinking, what they believe the problems in the company are. Second, let them design the solutions. Finally, get out of the way and let them put those solutions into practice.

This regime may be difficult for top managers who rose in hierarchical organizations where orders came from the top and the chairman was never wrong. But the drill can produce impressive results. Executives who follow it find that productivity goes up, customers are happier, and the company is better able to face the competitive music.

Almost without exception, the best way to find out what people think is to ask them. Surveys that permit employees to respond anonymously are gaining in popularity in corporate America. The most enlightening polls, companies find, are those that ask the toughest questions. United Technologies started five years ago trying to change its culture by empowering the lower echelons, cutting red tape, and continually improving quality. It has also eliminated 7,500 jobs. Now the company is asking employees to assess how much progress has been made. "No one person is smart enough to know what is going on in every part of a company this big," says Franklyn Caine, a senior vice president. "And a survey puts in front of people the fact that you really do want to change, and you're ready to do what that takes."

The questionnaire is one facet of a wholesale training effort aimed at altering employees' perceptions of the company, the job, and the market. The Readiness-to-Compete Survey, as it is called, went out in April of this year to 7,000 workers, including some 500 middle managers who had been carefully briefed beforehand. Part of it asked respondents to rank, on a scale of 1 to 5, the seriousness of ten obstacles to competitiveness. These include: "Management complacency; indifference; lack of urgency"; "Management not really committed to change"; "Reactionary management, not proactive"; and "Ineffective immediate supervisor." The quiz ends with plenty of space for further comments.

Says Caine: "We wish we'd done this five years ago so we'd have some basis for comparison after we analyze the answers." Now he's trying to persuade other technology outfits to ask their people the same questions, so each company could compare its findings with the industry aggregate.

Many companies doing surveys also send out managers—top, senior, middle—to ask the same questions over again in person. Even anonymous polls may not elicit truthful responses, and there is nothing quite like being there face to face. Karl Krapek, 42, head of United Technologies' Carrier Corp. subsidiary, has spent the past few years crisscrossing the country, having breakfast, lunch, and dinner with the troops. In the past year he has met and chatted with more than 9,000 employees. Sometimes he talks, but mostly he listens. "The main thing is not to come with prepared notes," says Krapek. "You want to get a dialogue going. You want people to speak up."

Understandably, this is not always wonderful for the ego of the top manager sitting there listening. But do you really want what TV networks call "happytalk," or do you want honesty? Says Carrier's Krapek: "People don't crab about their parking space or their merit raise. They usually want to know why we do certain stupid things that don't help the customer."

The best companies concentrate on managers' concerns *first*, so that they don't pass along a bad attitude.

Ah, the customer. Hyatt Hotels has been surveying all employees at its 106 hotels in North America for 15 years. Although its questionnaire includes some 100 items, the answers to seven key queries—one of which is "Tell us what you think of management"—make up the general morale index, or GMI, that Hyatt's top officers watch most closely. The company has just finished developing a computer program that compares employees' attitudes in each location with what

REPORTER ASSOCIATE *Tricia Welsh*

guests say on those how-did-you-like-your-stay postcards in Hyatt's hotel rooms. Guess what: The hotels with the highest GMI scores also rack up the highest ratings from customers—and, not coincidentally, the highest sales and gross operating profits.

Fifteen years ago the hotel company began a monthly regimen of employee get-togethers with senior management, called Hyattalks. "Patrick Foley, the chairman at the time, insisted on it," recalls Darryl Hartley-Leonard, 47, now Hyatt's president. Hartley-Leonard, an Englishman, began his career with Hyatt as a desk clerk in Los Angeles at age 20. As a regional vice president under Foley, he at first had his doubts about facing crowds of employees in person: "I thought, 'Oh, no, people are just going to complain.' But it has changed the whole organization." He credits the talks with keeping Hyatt's employee turnover low, especially among middle managers, whose average age is 40 and length of service 15 years. Hyatt execs say they believe the company still has more than half of all management-track types it recruited out of college since the mid-1970s, and has hired only about 5% of its managers from outside over that period.

At Toro in Bloomington, Minnesota, the rank and file have owned 20% of the company through an ESOP since 1985. "If you're going to ask people to own the goals of the company, you have to give them a tangible piece of it," says CEO Kendrick Melrose. "It's just putting your money where your mouth is." An early proponent of empowerment, he puts in occasional sessions on the assembly line, tries to eat lunch at least once a month with employees, and answers customer-service telephones.

Sales of Toro's lawn mowers and snow blowers declined in the latest downturn, and last fall Melrose asked all managers in the company to cut their budgets by 10%. Some did better than that. Louis Fournier, who runs materials purchasing for the consumer division, slashed travel expenses by 60%, partly by persuading suppliers to come to Bloomington now and then instead of expecting constant visits. At employees' suggestion, he also cut paperwork. "We used to circulate a 400-page printout every week that detailed everything we were doing," he says. "That's gone. And for every other report we do, we keep asking, 'Do you really need to see this every week? How about once a month? How about not at all?' "

Toro undertook layoffs only as a last resort. About 70 people, out of a total of 1,300 salaried employees, have been let go; some employees volunteered to leave so others wouldn't have to, and some took salary cuts or moved elsewhere in the company. "But there were no edicts from above," says Fournier. "We made all these decisions ourselves." Says William Hayes, formerly a director of three company groups: "I had to dismiss one person, and would have had to dismiss another, so I instead decided to retire myself—it wasn't so far down the road for me." Toro turned a profit in 1991. "Had we been more top-down and autocratic, we wouldn't be doing so well," Melrose says. "But you have to start building this kind of culture long before a crisis begins. My advice would be, 'Start now, and you'll be ready for the recession of 1998.' "

"I had to dismiss one person, and would have had to dismiss another, so I instead decided to retire."

In most places, middle managers will remain faced with the same dreary realities that now beset them, but with fewer opportunities to move up as companies keep carving layers out of the old hierarchy. Here and there, a forward-looking corporation is making a serious effort to help white-collar folks confront the new realities. Prudential began last year to offer 2½-day seminars that give managers a chance to take aptitude tests and to think about where they've been and where they're going.

Managers whose aptitude-test scores and introspection lead them to think they're in the wrong job can ask for a transfer. Susan Pitonak, 31, spent eight years as an accountant and was attending Rutgers University in the evenings to earn a master's degree in finance. The seminar she attended helped her clarify the restlessness she had been feeling as she stared at columns of numbers all day. She now works in training and development, and has changed her master's specialization to human resources. Says Pitonak: "The seminar asks you to look at every job you've had, why you chose it, why you left it—and what does success mean to *you*?"

IT SEEMS UNLIKELY that the answer to that question will ever again be: "Toiling loyally for my company, even if I'm overworked, underappreciated, and wouldn't know empowerment if I tripped over it." Unhappily for CEOs and division heads who still expect such loyalty—where have they been?—the advice that career counselors are handing out these days won't bring back the Organization Man (or Woman either).

William Morin, chairman of Drake Beam Morin, the biggest outplacement firm in the world, distills the lessons for middle managers attempting to plan their careers. "Big corporations are still demanding old-style loyalty," he says, "but at the same time everyone knows they're offering packages to clear out as many people as possible. That mixed message is not lost on anybody." As a consequence, Morin and many other experts encourage managers to think of themselves as independent, marketable entities: "The attitude for the Nineties is not, 'I work for XYZ Corp. and I happen to be an administrator.' No. The idea now is, 'I'm a very capable administrator—and I just happen to work for XYZ Corp. at the moment.' "

Or, as they used to say on Wall Street in the Eighties: Never love a company, because a company will not love you back. F

Morin sees a new employer-employee contract.

CEOs THINK THAT MORALE IS DANDY

Are there unhappy managers out there? Not at my company, says the typical corporate chief. But the top guys are trying to strengthen lines of communication. ■ *by Anne B. Fisher*

To make use of a phrase that has been growing rapidly in popularity these past few weeks: When it comes to the managerial morale crisis, CEOs just don't seem to get it. That's the clear implication of FORTUNE's poll of 212 chief executives of America's largest companies, conducted by the opinion research firm Clark Martire & Bartolomeo. Fully 91% of the top brass believe that morale in their companies is just fine. And 59% think that satisfaction among middle managers is either "excellent" or "very good," with only one CEO in ten conceding that morale at that level is fair or poor. While many middle managers and the people who conduct surveys of their attitudes say that their enthusiasm for work has declined in the past three to five years, 58% of chief executives think morale has gotten *better* over that period of time. About one-quarter of the CEOs in the survey said morale has stayed the same, and just 16% have noticed a decline.

All this despite the fact that most chief executives report they are making a herculean effort to stay in touch and to keep people in the picture and on board. They are communicating with employees in regular meetings, conducting employee surveys, and churning out newsletters and informational videos. "We've tried to build an organization that's congruent with the highest side of human nature," says William J. O'Brien, 59, CEO of Hanover Insurance Co. in Worcester, Massachusetts. "The fundamental movement in business in the next 25 years will be in the dispersing of power, to give meaning and fulfillment to employees in a way that avoids chaos and disorder."

W. Thomas Stephens, 49, chairman of Manville Corp., with its history of asbestos problems, likens a session with employees to an "old-time revival meeting. We had a psychiatrist in to do a study for us, and we learned that, in times of stress, communication has to increase exponentially or you won't survive."

Richard F. Teerlink, 55, CEO of Harley-Davidson, explains, "It's a matter of top management getting out and talking with people, not at people . . . We're making progress, but we still have a long way to go." Says Alan G. Hassenfeld, 43, CEO of toymaker Hasbro in Pawtucket, Rhode Island: "We

Q In the past three to five years, has morale among your middle managers improved, stayed the same, or gotten worse?

A

Improved	58%
Stayed same	25%
Gotten worse	16%
Not sure	1%

Q How would you describe morale among middle managers in your company?

A

Excellent	15%
Very good	44%
Good	29%
Fair	11%
Poor	1%

Q How would you characterize morale at your company? As a whole, would you say it is . . .

A

Excellent	21%
Very good	45%
Good	25%
Fair	9%

"We learned that, in times of stress, communication has to increase exponentially or you won't survive."

W. THOMAS STEPHENS
Chairman, Manville Corp.

"It's a matter of top management getting out and talking with people, not at people."

RICHARD F. TEERLINK
CEO, Harley-Davidson

"We are meeting more often with senior management in small groups, and they are doing the same with middle management."

ALAN G. HASSENFELD
CEO, Hasbro

have a program called 'Write to the top' in which everyone is encouraged to write to me about anything that's on their minds, and it's read only by me. We are meeting more often with senior management in small group settings, and they in turn are doing the same with middle management."

Nearly 60% of the chief executives say they conduct employee surveys regularly, and most of those bosses claim they augment the surveys with frequent personal contact. But some concede that restructuring still takes a toll on employee attitudes. "We've worked hard at bottom-up, two-way communication," says Richard A. Clarke, 61, chairman of Pacific Gas & Electric in San Francisco. While removing layers of management has been good for that, it hasn't helped middle-management morale." So in addition to employee surveys and a twice-a-year video presentation to all 80 PG&E locations, Clarke holds monthly brown-bag lunches where managers can ask questions or air gripes. The lunches "develop a good dialogue," Clarke says.

With all those chief executives out there communicating like crazy and believing that their efforts are giving morale a shot in the arm, why are middle managers and professionals still feeling unappreciated and cut off? Could it be that when the boss asks for an employee's opinion on the really tough issues, the employee is less than candid? Some who have pondered the question think so. Manhattan consultant Dee Soder recalls hearing a conversation between two middle managers about an anonymous employee survey they were being asked to fill out. Said one to the other: "Oh, come on, you're not going to write down what you *really* think, are you?" That, says Soder, is a common attitude, and one that defeats the purpose of doing surveys at all.

Consultant and author Robert Kriegel agrees. "Most middle managers really do not want to rock the boat," he says. "They tell their bosses what they think their bosses want to hear, and then go home and seethe privately." Kriegel says this is a shame, since in his view many top executives really do want to know what their subordinates are thinking. The FORTUNE poll of chief executives strongly suggests that he is right. Could it be that those middle managers who don't speak up have no one to blame but themselves? F

REPORTER ASSOCIATE *Tricia Welsh*

Q A

Does your company conduct regular surveys of its employees?

Yes	59%
No	41%

Q A

Do you find these surveys helpful?

Helpful	93%
Not really	6%
Not sure	1%

Q A

What has your company done in recent years that has most helped to improve communications and productivity?

Regular meetings with employees	41%
Quality-improvement programs	20%
Incentive-based compensation programs (e.g., stock options, profit sharing)	17%
Internal newsletters/bulletins	16%
Team effort/employee involvement	11%
Informational videos	10%
Surveys/focus groups	9%
Delayering organization	7%
Training middle management (in human resources, etc.)	7%
Better communication between all layers of management	6%
Broadened participation in decision-making	3%
Instituting grievance panels/hotlines	2%
Other	5%

Adds to more than 100% because of multiple responses

THE BILL IS DUE AT AMERICAN EXPRESS

Growth was so easy for the company in the 1980s that it lost touch with its customers. Now it faces the difficult job of wooing them back. Has Amex peaked out? ■ *by Bill Saporito*

IF AMERICAN EXPRESS CO. were a person, it probably wouldn't be eligible for one of its own cards. Who'd give charge privileges to a corpus with an erratic earnings record, an inability to handle debt, and an increasingly questionable reputation vis-à-vis its peers?

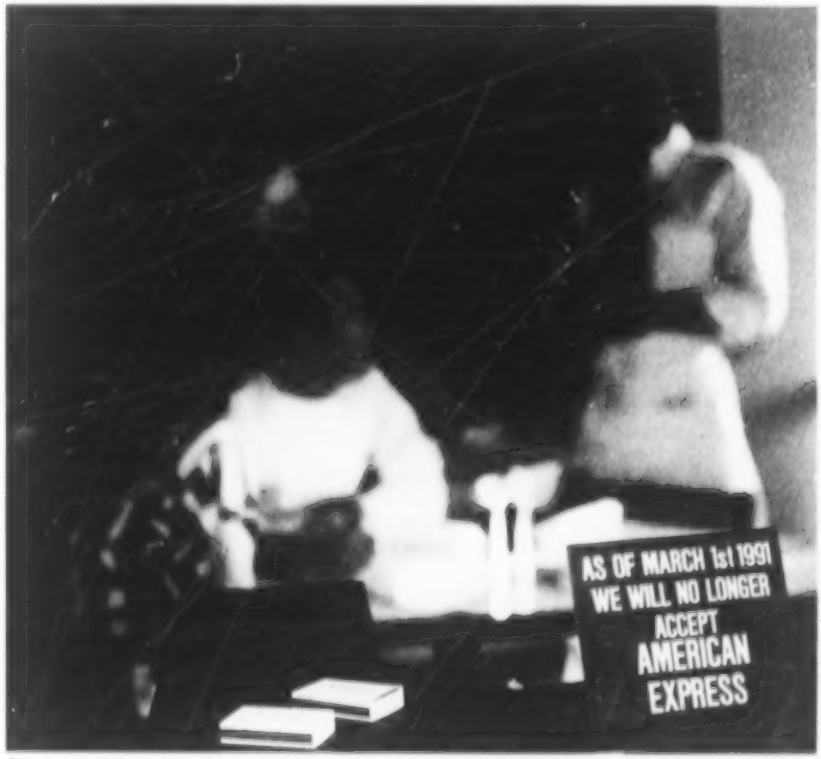
Calamity is getting to be a quarterly event at the company. In October a bad-debt bombshell exploded at the company's Optima credit card operation, triggering a $24 million write-down. Another $131 million in charges against earnings came from bad loans to gold and platinum cardmembers with credit lines and from delinquencies among the fly-now, pay-later bunch. Finally, the company waved goodbye to $110 million to restructure the Travel Related Services division, the business that issues charge cards and traveler's checks. It all added up to a 91% decline, to $31 million, in third-quarter earnings.

While the Optima trouble got the press play, the travail at Travel is the most ominous news. TRS, as the division is known, is the flagship, accounting for $9.7 billion of the company's $24.3 billion in revenues last year and $956 million in earnings. But this hitherto proud vessel is being buffeted by sustained competitive furies that Amex has never experienced before. Says the company's newly appointed president, Harvey Golub: "To the extent that TRS is successful, this company can do anything it wants and withstand almost anything. And to the extent that it is not, it doesn't really matter what happens outside of TRS."

In response to the competitive onslaught by bank cards, American Express now plans to recast itself as plastic's gold standard, with a strategy that—roughly translated—affords cardmembers the privileges they thought they were already getting and then some. Says Kenneth I. Chenault, president of the domestic consumer card division: "Frankly, the thrust of the Seventies and Eighties was to simply acquire the customer. But that clearly is not enough." Amex will sacrifice some increase in its numbers to concentrate on its best cardmembers, with the aim of getting them to charge more on Amex than on their other cards.

The plan also calls for the company to make magic for merchants that accept the card by increasing advertising and promotion and by downsizing its mail-order business so as not to compete with them. Amex also plans to slug it out with the bank cards, in some cases lowering the discount rate, the company's cut of each sale the merchant rings up on an Amex card.

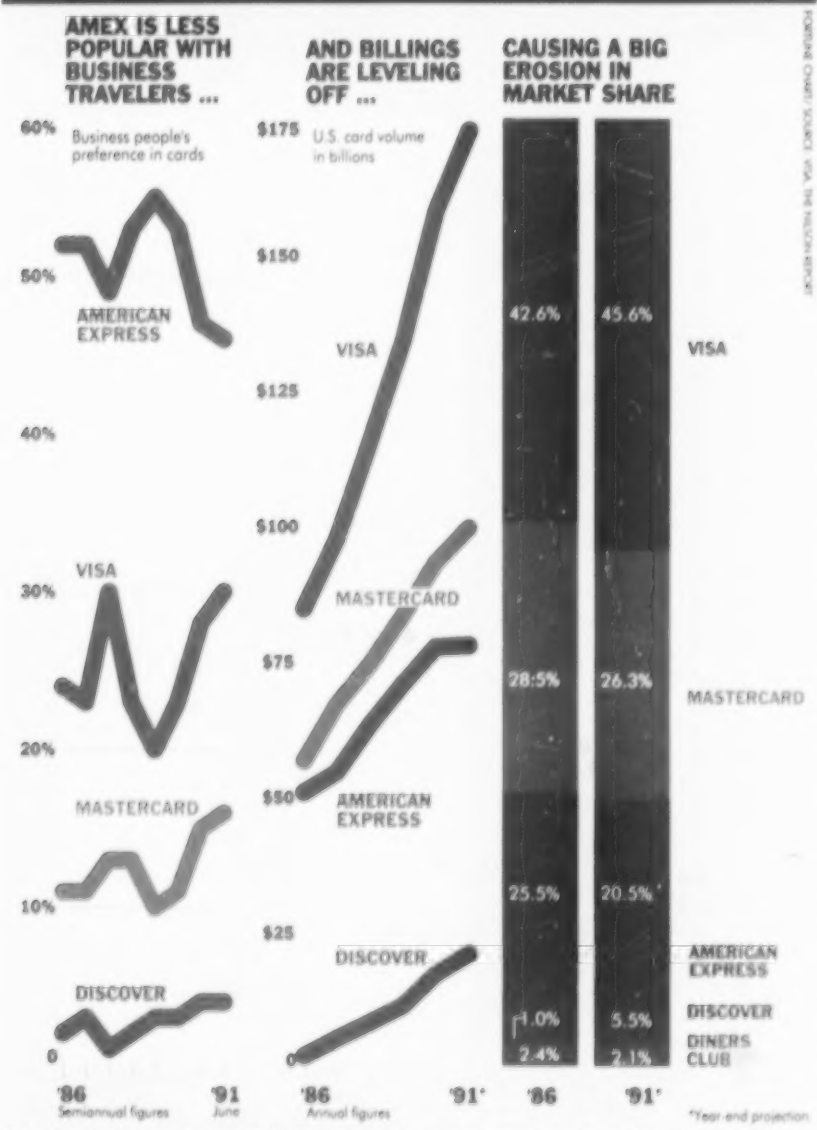
This aggressiveness could pinch TRS profits next year. For instance, according to Robert Hottensen Jr., an analyst at Goldman Sachs, reducing the discount rate 25 basis points will cost $250 million in operating earnings. But CEO James Robinson III, who is already just about out of friends on Wall Street anyway, is resolute on the point. Says he: "We've proven that we can deal with some tough situations. We did so with Fireman's Fund and realized great value for the company when we sold it. We're doing so with Shearson now, and we'll handle the



Chic restaurants such as Azalea in Atlanta are refusing the card, citing Amex's high fees.

PHOTOGRAPH BY ANN STATES—SABA

THE SUPERIORITY GAP NARROWS AT AMEX



According to research conducted for Visa—Amex declined to provide its own—46% of business people cite American Express as their preferred card, while 30% choose Visa, a new high. Recession hit Amex white-collar cardmembers hard, and its billings stagnated while Visa, MasterCard, and Discover all gained. Amex's market share has shrunk, but card charge volume is growing.

different but challenging aspects at TRS." The stock market is less sure: American Express shares have dropped 27%, to $19 from $26, since the company announced the bad news about the October write-down.

Stockholders can still take comfort from Amex's strengths. Despite its problems, Goldman Sachs's Hottensen estimates that TRS will earn $425 million this year on revenues of about $10 billion, and by any measure it remains a top-flight provider of customer service. The corporate card side of TRS, for example, has more than five million cards in the hands of employees of most of the FORTUNE 500 industrial companies. It has cornered about 80% of the business card travel and entertainment market, which generates $25 billion in spending, roughly a third of Amex's total domestic billings of $78 billion.

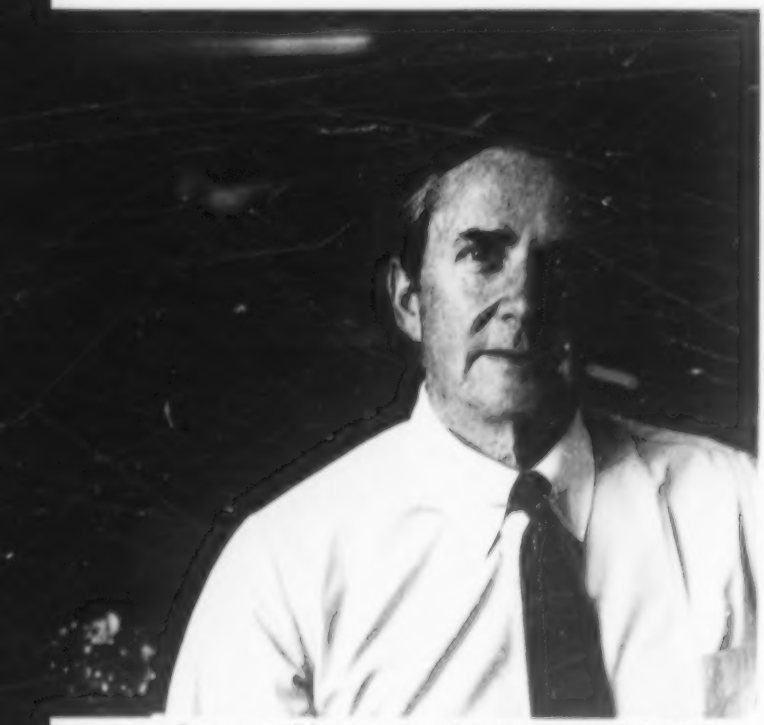
The company's Shearson Lehman Brothers division, last year's hotfoot, is back in solid shape and gaining momentum, helped by cost cutting and a blossoming market for equities (see box). IDS Financial Services, the Minneapolis-based financial planner to the middle class, continues to enjoy growth in sales and earnings, and should chip in $245 million on revenues of $2.5 billion in 1991. Informational Services Corp., a division with expected revenues of about $1 billion and earnings of $120 million this year, is bumping along through the recession quite nicely. ISC's biggest business? Processing Visa and MasterCard charges for the institutions that issue those.

But the write-offs in TRS and the Optima card suggest a dawning struggle for a company once thought to be among the nation's best-managed service companies: Could it be that American Express has lost touch with its basic customer, the consumer? The years the company spent expanding its cardmember base have eroded the card's position as the premium-priced plastic for upscale business travelers and for those aspiring to be.

THE CLIMB BACK to its lofty perch as the plastic you gotta have is going to be difficult for American Express. No one doubts its ability to deliver expanded service. The question is, Do consumers really want that now, and the status that goes with it? Says Laurel Cutler, worldwide director of marketing and planning at the advertising agency FCB/Leber Katz Partners: "Prestige is less of a Nineties concept than an Eighties concept. God knows, function, utility, and what you get back for what you pay is the name of the game for most people today."

Some experts say the company will never regain its former heights. Argues Spencer Nilson, publisher of the *Nilson Report*, an industry newsletter: "American Express's market share is going down and may never go up again. They have inherent problems that will be hard to resolve." Nilson believes the way consumers view cards is shifting, from status symbol to payment device, and that it will be prohibitively expensive for Amex to change that attitude. Adds a rival

REPORTER ASSOCIATE *Joshua Mendes*



Do you owe me? Optima gave a portfolio of loan charge-offs to Robinson.

in the card business matter-of-factly: "American Express has seen its best year."

The challenge to American Express's green, gold, and platinum card business has been growing since 1989. That's when Visa USA, the consortium of financial institutions that issue the cards, began targeting Amex instead of its traditional rival, the MasterCard association. Bank card issuers make most of their money charging annual fees and interest on unpaid balances. Amex also makes a bundle on annual fees, but 65% of its revenues come from the merchant discount. Last year discount-fee income amounted to $3.7 billion. Too much, to some eyes. Says Frank Partel, an industry consultant and former Amex executive: "American Express has been aware for some time that its Achilles' heel has been the discount income."

Banks issuing Visa have been taking aim at that heel, whittling the fee down to an average 1.82%, while Amex continued charging 3.25% to over 4%. Amex executives did nothing in response, believing Visa's rate would be unsustainable over time because such a low fee made the transactions unprofitable for the banks. But the bank card issuers got lucky: The cost of money began to fall, from 7% in 1989 to about 5%, while the interest rates consumers paid drifted ever upward, to 19%. Says Harvey Golub: "That wonderful spread enables them to have uneconomic discount rates with merchants."

Amex also did nothing when some of the largest credit card issuers, Citibank and First Chicago, began poaching its best business travel customers by introducing affinity cards that awarded mileage on frequent flier programs for each dollar charged on the issuer's card. Again, Amex executives estimated that the 1-cent-a-mile cost, or $200 on a card that runs up $20,000 in billings, was uneconomic and therefore unsustainable.

They were half right. Says Robinson: "We watched the market share go away to the affinity card, and we chose to ignore that shift. A number of affinity cards came and went, so the approach was not necessarily wrong." But some programs came and stayed. Forced to respond tardily, Amex started its own frequent-traveler program, called Membership Miles, that awards mileage on a variety of airlines in exchange for charge volume. The company claims it is winning back its lost travelers.

The bank cards also began touting their own special perquisites, while at the same time matching Amex on goodies such as free travel accident insurance. With its lowered discount fee, Visa also began adding merchants at a rapid clip: Today the card is accepted in nearly three times as many places as Amex cards. In ads showing sleek couples in faraway places, Visa pounded the card message home: "Visa. It's everywhere you want to be." Amex never intended its cards to be used everywhere—there's no exclusivity in that—but Visa has made acceptance a competitive issue.

"To the extent TRS is successful, this company can do anything it wants. To the extent it isn't, it doesn't matter what happens outside TRS."

THE KEY to Amex's success over the years was selling the merchants on a "plus business" strategy, meaning that a blue decal on the window would bring in additional sales from blue-chip buyers. For years Amex had no problem demonstrating that its cardmembers spent considerably more than users of other cards. But that story has become less compelling now that there are more high-income Visa and MasterCard gold card holders than there are holders of American Express cards of all colors. Merchants know that nearly 90% of Amex holders also carry bank cards.

In the last year, with recession choking retailing, merchants began to "suppress" Amex, in the company's phrase—asking their customers for another card instead. And some stopped taking the card altogether. So cardmembers were being greeted increasingly with grudging acceptance or none at all. Some privilege. Amex's status as the business person's preferred card for travel has been slipping, according to Visa's research (see chart).

The problem boiled over earlier this year in what became known as the Boston fee party. Boston restaurateurs, taking a beating from a recession that has laid New England low, asked Amex either to cut the discount fee or to boost marketing support. Their pleas unheeded, they began refusing to accept the card. Soon restaurateurs all over the country were threatening to do the same. Says Chenault: "That was the wake-up call." But Visa and Discover heard it too. Visa agreed to pay for legal representation for the revolting Bostonians, and a Discover swat team descended on the city and increased Discover's penetration of the market from 20% of Beantown's beaneries to 75%.

Amex responded by reducing the discount rates to restaurants across the country that clear their transactions electronically rather than by mail. But once it lowered its rate for restaurateurs, other merchants wasted no time in asking for similar treatment. The blood is clearly

in the water. Says Philippe Gadbois, director of marketing for Hilton International, owner of the Vista hotel chain in the U.S. and Hiltons abroad: "The big picture, as you might surmise, is that there are extremely important discussions between us and Amex." Nor is Hilton International the only chain to invite the company over for tea and crimping. A merchant agreement with Amex is essential to any hotelier, but Gadbois notes, "Competing products have come a long way."

No one is more aware of that than Harvey Golub. Robinson—who has a knack for appointing and then losing superb No. 2s—has charged him with the responsibility for remaking TRS. Until Robinson made him president last July, he had been running IDS, transforming a good company into a sterling performer. And after eight years in Minnesota, even a Brooklyn boy like Golub knows a wounded duck when he sees one.

Says he, in the kind of frank admission that would never have dribbled out of the mouths of TRS executives in the past: "The TRS company is really at a crossroads. What will be interesting and important to us is to define the current reality in terms that are stark and clear to people. And based on that reality, to decide on our future vision and the strategy that we're going to pursue to get that vision implemented. And then to get on with it. And I guess the question is to what extent will we be able to do it and when will we know."

AMEX will focus its attention on its best cardmembers, the 20% who do 80% of the charge volume. Says Robinson: "We're going to start with tenured cardmembers, from charter members forward, and design and introduce service for them in ways nobody else can, focusing on them with an individuality that we have not done before." But even lesser lights will get what the company is calling "Service for the 1990s." For instance, a cardholder traveling in Mongolia could not only get a lost card replaced quickly but also change travel plans, find a restaurant nearby, and have a letter delivered to a client—all with one phone call. Amex describes this concept as 100% resolution.

At home the focus will be on a combination of personal marketing and service benefits. For example, each cardmember could receive his or her monthly statement on the day he wants and in whatever form he wishes—with or without charge duplicates, say. A customer who plays golf and likes antiques would receive entirely different mailings from those who prefer jogging and modern art. The company is already laying on more special treats along the lines of reserving tickets to tennis matches for sale to the tennis nuts, or to cultural events for gold or platinum card members.

For the service establishments, or SEs, as the merchants are known in Amex parlance, the news remains mixed. The company says it wants to return to those wonderful days of yesteryear when merchants valued the blue decal in their windows. Golub has promised to be more attentive to such merchant concerns as discount rates, speedy payment, and marketing support. Merchants, some of

TO THE RESCUE AT SHEARSON

Even as American Express strayed from the values that had made it successful in its main business, an infusion of old-style Amex management precepts is reviving Shearson Lehman Brothers. After the brokerage firm lost nearly $1 billion from investments in junk bonds, real estate, and soured deals, Amex shoveled $1 billion of new capital into the business and then vigorously cleaned house. Exit dealmaker Peter Cohen as CEO; enter a new boss, Howard Clark Jr., the parent's chief financial officer. Clark brought with him Jonathan S. Linen, former co-head of TRS, and placed him in charge of the retail brokerage.

The two men forced Amex's customer-driven values on a somewhat outlaw organization. In the 15 months through August 1990, Shearson paid out a numbing $14 million in arbitration settlements to disgruntled clients, three times as much as any other brokerage firm. The sales force was clearly ready for a code of conduct based on Amex's Blue Box Values, something along the lines of "Don't screw the customer." To reinforce this notion, each broker's desk was equipped with a "table tent," or folding card, on which the precepts were neatly printed.

To make its intent absolutely clear, Shearson dismissed 180 sales reps for violating those precepts, even though together they were pulling in more than $40 million in gross commissions—big numbers.

Along the way, Shearson also wrung costs out of its operations by closing 110 branches. The company then established expense and operations benchmarks for the 400 still standing, based on the best practices of the top 75 offices. As a result, operating costs in the branch system have dropped by 25%, and operating expenses have been pared firmwide by almost $440 million since 1989.

Shearson has also begun to digest its parent's emphasis on prestige service. The brokerage has bifurcated itself: The investment banking side is now known as Lehman Brothers, reviving an honored, old-line name, and the retail sales operation goes by Shearson Lehman Brothers. Clearly enjoying its rediscovered pedigree, Lehman Brothers has increased its market share in the underwriting business some 50% over last year, according to Clark, and is lead manager for roughly $2 billion of equity securities slated to come to market later this year. The company recently moved to No. 3 from No. 6 in the value of domestic issues it has lead-managed.

If good luck is a result of good planning, Shearson is about to make some hay. A booming equities market has arrived, and Goldman Sachs estimates that the firm's profits will be about $150 million this year. "This is the miracle of management," says Linen. "When you have your revenues going up and your costs going down, it's just amazing what happens."

Shearson is by no means trouble-free. The company needs more capital, and it may have to withstand more write-offs. Moreover, the strength of its conversion to Blue Box Values has yet to be tested in a sluggish market. But with a tangible net worth—tangible assets less liabilities—of $722 million, up from almost zip 2½ years ago, Shearson is now in a position to earn back for Amex shareholders some of the money they put into it.

Golub is blunt: "We do require significant changes in our strategy."

whom haven't seen anyone from Amex in a long time, can expect a visit by service representatives empowered to make deals on the spot if a problem arises.

But woe to those service establishments that continue to suppress the card. Robinson is promising retribution. Says he: "We can't sit there and have them sign a contract with us, accept our customers, and then try to switch our customers off to another product." The company is also reevaluating its merchant base using new criteria to determine where the company will spend marketing money and, in particular, which sectors it will try to expand. Although Robinson doesn't expect to purge many SEs, he insists that in the future the company will be choosier about adding new ones.

AMEX'S OTHER troubled business, Optima, affords yet one more example of how badly it had lost touch with its customers. Optima was launched with a design flaw that almost guaranteed above-average losses. The company offered it only to current T&E cardmembers, who it believed were the perfect targets for revolving credit since they paid their bills religiously. What the company failed to realize is that a big portion of all T&E charges are business expenses for which the cardmember is reimbursed. Thus, he can afford to keep that bill current.

By contrast, many Optima cardholders used their cards strictly as a credit device—they already had Amex T&E cards for payment convenience—and about 95% of the Optima accounts ended up being rolled over, that is, the balances were not being paid off every month. And some were never paid. Early last year, Optima faced charge-off rates near 5%, tops among the big issuers. By the second quarter the percentage nearly doubled.

Like all credit card companies, Amex creates models to predict a portfolio's behavior. But the models used historical data, in some cases two years old, on which to make assumptions about unemployment and personal bankruptcy rates. As the saying goes, Optima's credit managers had their heads in the past and their posteriors to the future. By the first quarter of this year, the models were hopelessly out of date: The personal bankruptcy rate was soaring, for instance, but a revised number never made it into the equation.

Executives of American Express knew the portfolio was deteriorating, but the third-quarter projections were shocking. Sources say Optima credit managers apparently failed to write off some busted accounts. Instead, they believed that many bad accounts could be "cured," or negotiated to become current. They also anticipated a general economic recovery. Didn't we all.

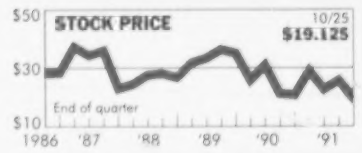
Early next year the company plans to relaunch Optima as a hybrid T&E-credit card, offered only to existing cardmembers. Those cardholders who exercise "financial responsibility" by paying off perhaps 30% of the balance each month will get a rebate or other reward later. Those who want to finance their entire balances will likely pay the market rate, currently about 19%.

The problems at TRS and Optima represent a kind of cultural meltdown that occurs when "winning" organizations are faced with the opposite. The company's mission statement, known as the "Blue Box Values" after the corporate logo, talks about "Conduct that reflects the highest standards of Integrity" and "Teamwork—from the smallest unit to the enterprise as a whole." Neither was visible at Optima, where lower-ranking managers were so fearful of reporting bad news that they compounded their mistakes in a frantic effort to make their numbers. And apparently no one on the TRS team had enough courage, or clout, to admit what was happening to the business.

To Robinson, who stumps endlessly for quality, the failure is disillusioning. Says he: "Any company will have pressure to meet the budget—should and will—but everybody needs to know that you must also communicate reality."

In the short run, there's no need to fret about the future of American Express. Robinson's decision to invest in savings-oriented businesses such as IDS and Shearson is paying off now, with both in a position to pick up earnings and bail out TRS. Moreover, if company executives are wrong in their current approach to TRS, they'll still have time to make midcourse corrections. A franchise this magnificent, Mr. Robinson's critics should note, can survive almost any management. But not forever. F

AMERICAN EXPRESS



A series of misadventures at divisions such as Fireman's Fund (since sold), the Boston Co., and Shearson Lehman has punished Amex.

SALES (latest four quarters) Change from year earlier	**$25.4 billion** Up 4.5%
NET PROFIT	**$686 million** Up 128.6%
RETURN ON EQUITY	**9.3%**
TOTAL RETURN TO INVESTORS 12/31/85–12/31/90 (annual rate)	**–2.0%**
PRICE/EARNINGS MULTIPLE	**13.6**
DIVIDEND YIELD	**4.9%**

CAN YOU TRUST THAT AUDIT?

The government doesn't—it's suing three of the Big Six accounting firms over their work on S&L financial statements. Here's what's being done to audit the auditors. ■ *by Rahul Jacob*

IT MAY BE TIME to revise the notion that accountants are boring. Ever since the savings and loan scandals broke, auditors have been something of a spectacle. Not only have their audits been roundly criticized in virtually every major S&L debacle, but in addition the Federal Deposit Insurance Corp. and the Resolution Trust Corp. have sued or settled with five of the Big Six, in most cases alleging negligence. The remaining member of this beleaguered sextet, Price Waterhouse, is embroiled in controversy over an audit that its London affiliate performed for Bank of Credit & Commerce International.

A slow-growth economy has made things worse, increasing the competition for auditing clients to a frenetic, almost farcical, level. This raises the concern that heavily discounted audits will prove to be sloppy audits. No wonder investors, managers, and creditors are becoming skeptical about the auditor's imprimatur on financial statements! Anyone who relies on the numbers in an annual report must grapple with a profoundly unsettling question: Can you trust that audit?

The short, reassuring answer: Yes. Despite all the *Sturm und Drang*, allegations that auditors have been negligent run at less than 0.5% of all audits performed for the more than 12,000 companies that submit financial statements to the Securities and Exchange Commission. These numbers are roughly the same as five years ago. The bad publicity has nonetheless jolted the auditors into action. The profession's national association, the American Institute of Certified Public Accountants (AICPA), has adopted tough new rules to plug the gaping holes exposed by the S&L disaster. The firms are putting more emphasis on training employees and are demanding that their accountants become specialists in clients' industries.

The accountants' tough times stem partly from the mergers and acquisitions binge of the Eighties, followed by the bankruptcy hangover of the Nineties, which left fewer clients all around. The firms are scrambling after those that remain, often cutting fees and aggressively pursuing accounts outside the FORTUNE 500 industrial and service companies. Robert Willens, an accounting analyst for the Lehman Brothers investment bank, maintains that many audits are being done at 40% to 50% of the standard fee. Says he: "Fee cutting is rampant." In an arrangement that industry insiders say is not unique, Price Waterhouse snared a Wall Street client last winter by offering to do the first year of a three-year audit engagement free. The firm denies this but refuses to disclose the specifics of the deal.

All this has made a sizable dent in industry revenues, including those of the Big Six—although they resolutely maintain that their audit businesses are profitable. (As private partnerships, the Big Six firms are not required to release financial infor-

REPORTER ASSOCIATE *James A. Anderson*

ILLUSTRATIONS BY SEYMOUR CHWAST

mation.) Audit's share of Big Six revenues declined from 62% in 1982 to just under 50% last year, according to *Bowman's Accounting Report*. Their remaining business comes from consulting and tax work (see table). In 1990, Big Six audit receipts did not even keep pace with inflation, growing only 4.3%, vs. 5.4% for the consumer price index, and way down from the 10% these firms averaged annually through most of the Eighties.

The impact of fee cutting on the quality of audits is harder to gauge. If a firm is being paid less, it seems reasonable to believe that it will commit fewer resources to the job. Says Steven Oppenheim, formerly of Spicer & Oppenheim, a New York City firm that disbanded last December after it lost many of its brokerage clients: "Auditors are human. When you substantially reduce audit fees, you reduce the time spent on an audit."

A 1989 report by the General Accounting Office (GAO) on 11 failed thrifts found many instances when auditors did not adequately check managements' oral assertions that problem loans were collectible. An auditing firm cited in the study had doubts about the appraisal values of collateral for one thrift's loans but failed to check the appraisals independently.

Willens, the Lehman Brothers analyst, does not think the quality of audits has suffered because, he says, "the firms themselves are bearing the brunt of the discounting." He points to the layoffs of professional staff at Deloitte & Touche, Ernst & Young, and Peat Marwick (which dismissed 265 *partners* last spring) as anecdotal evidence that rather than corners, fat is being cut. Jon C. Madonna, Peat Marwick's chairman, agrees: "We had too many partners. We were flabby like other businesses," he says.

Moreover, the courts are finding it difficult to make a straight-line correlation between a failed S&L and a faulty audit. Last month a federal judge in Dallas disagreed with the FDIC's contention that one of Ernst & Young's predecessor firms contributed to the failure of the Western Savings Association; he threw out the FDIC's $560 million suit against the auditors.

Before you can assess whether you should trust an audit, you need to know what it is—and is not. Many shareholder and depositor lawsuits stem from the expectation gap that yawns between what auditors actually do and what the public thinks they do. First and foremost, just as the auditor's letter in any annual report says, an audit can offer only "reasonable assurance" that the financial information is free of "material misstatements." The definitions of "reasonable" and "material" are foggy, but what the auditor's letter means is that the numbers are free of unintentional errors big enough to give an inaccurate view of the company's financial position.

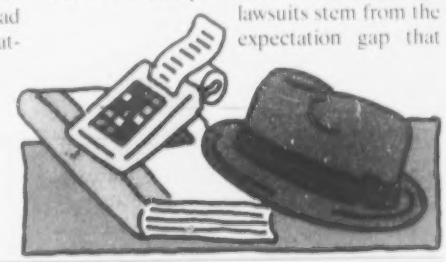
Generally accepted auditing standards, the guidelines laid down by the AICPA, require that auditors understand the client's business and its internal controls. But it would be incredibly costly to check a client's every transaction, so the auditors rely on samples and, with the help of computers, skew their sampling to catch errors that might significantly distort the financial statement. The actual transactions they check are relatively few.

HERE'S THE WAY an audit typically works. The accountants learn how a company's internal accounting system operates through flow charts and descriptions of the ways various transactions reach the income statement or balance sheet. In accounts payable, for example, these procedures would document what happens to goods as they come in from the supplier. The auditors test the system by checking a number of receipt slips against actual inventory to make sure that the items were received. Then they check the invoice against the client's canceled checks to be sure that the goods were paid for.

In the course of their work, auditors also evaluate business risks, even though the financial statement gives nary a hint of this. They examine the internal environment of a company—the quality of management and its manufacturing systems, for instance. Then they look at the external environment—the threat of foreign competition, the speed of technological change. They design an audit program with more checks if they judge that the company's internal accounting system is weak, and fewer if they think that it is solid.

What the auditor's report is *not*—and what many people misconstrue it to be—is a stamp of approval. Says J. Michael Cook, chairman of Deloitte & Touche: "There is a longstanding belief that auditors render a Good Housekeeping seal. We do not. We do not say this is a great investment to

THE BIG SIX



FIRM	1990 U.S. REVENUES in millions	PERCENTAGE OF REVENUES			COMMENTS
		Auditing	Management consulting	Tax	
Arthur Andersen & Co. SC	$2,282	35%	44%	21%	Includes world's largest consulting firm. Known for its staff training and technology. Many oil and gas clients.
Ernst & Young	$2,239	53%	22%	25%	Strong in health care and financial services, but bruised by S&L audits, including Lincoln Savings.
Deloitte & Touche	$1,921	57%	20%	23%	Kohlberg Kravis Roberts is a big client. Dominant in retail—Sears, R.H. Macy. Audits GM and Chrysler.
KPMG Peat Marwick	$1,827	53%	20%	27%	One of 1990's Malcolm Baldrige quality award semifinalists. Strong in banking and Silicon Valley.
Coopers & Lybrand	$1,400	56%	25%	19%	Sat out merger musical chairs. Dominant in telecommunications—clients are AT&T, BellSouth, Nynex.
Price Waterhouse	$1,200	48%	24%	28%	Oldest of the Big Six, and known for serving multinationals—IBM, Exxon, Kodak. Hurt by its BCCI work.

FORTUNE TABLE/SOURCE FOR REVENUE FIGURES: BOWMAN'S ACCOUNTING REPORT

DancingDramaComputersBalletSkiing
OperaArtRaftingCanoeingCycling
WE
DivingZoologyTravelLanguagesTheater
MakingMoviesSailingBaseballMake-Up
ArcheryActingInteriorDesignFashion
DONT
CarpentryFrenchCookingWeaving
Water-SkiingSnorkelingHorseback
RidingSurfingAstronomyCreativeWriting
INTERRUPT
ModelingAutoRepairPlumbingRunning
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PaintingPotteryGymnasticsMime
CareersCounselingKarateSoftball
SwimmingGolfRoller-SkatingIce-Skating
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BowlingBadminton
DebatingSculpture
WITH
AmusementParksArcheologyJuggling
DressmakingRowingEcology
WhaleWatchingWhite-WaterRafting
COMMERCIAL
DancingDramaComputersBalletSkiing
OperaArtRaftingCanoeingCycling
DivingZoologyTravelLanguagesTheater
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CarpentryFrenchCookingWeaving
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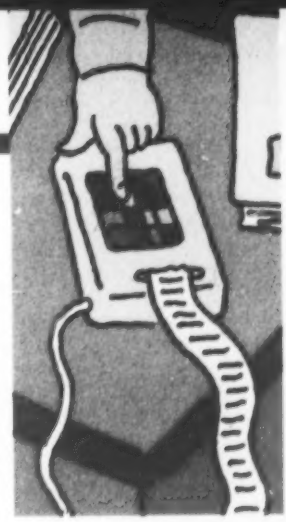
AS GREAT AS YOU WANT TO MAKE IT



"By the time financial statements are sent to the shareholders, they are not the relevant current information about the company."

make." An unqualified auditor's report is no assurance that management is not defrauding the shareholders.

Why is it that auditors often fail to detect fraud? The generally accepted standards do not require that they look for it, for one thing, and statistical sampling is unlikely to uncover it. Sampling is used to check areas where there are high-volume transactions. Most major cases of fraud occur outside a company's regular control system. BCCI, for example, kept a separate set of books through which many of its fraudulent loans were funneled.

But auditors are often too reluctant to rat on management even when fraud is staring them in the face. Instead they prefer to resign the account quietly. Though the client must file an 8-K form with the SEC whenever it parts ways with an auditor, the form can be worded to finesse the reasons for the disagreement, and the SEC would have no reason to look into it. Last year Representative Ron Wyden (D-Oregon) introduced a bill that called on auditors to report to the SEC if they discovered that a client was breaking the law and management or the board of directors did nothing to remedy the situation. But the bill failed to clear the Senate, and a revised version was introduced this summer.

PROBABLY the most compelling force keeping the auditors on their toes is the threat of lawsuits by shareholders or depositors in search of the deepest pockets to dip into after a business goes under. The partners are personally liable for damages, and James Emerson, publisher of *Professional Services Review* and a former Big Six accountant, estimates that the four largest firms each put a minimum of $3 billion at risk whenever they sign an opinion. Says he: "I don't care what the audit fee is. It would not justify cutting corners materially when you consider the liability."

Substantial investments in technology and training are helping the firms reduce the time and staff required for an audit, while keeping errors down. Peat Marwick, for instance, with only $1.8 billion in U.S. revenues, is one of Apple Computer's largest commercial customers. Computers are eliminating many of the tedious manual processes of transcribing numbers from source documents to work papers.

All the firms are promoting their expertise in client industries as a way of adding value to the audit. Says Peat Marwick's Madonna: "If people who understand the business are doing the work, odds are it will be done well." This year when Peat Marwick announced the election of 46 new partners, it listed them by their specific expertise (commercial banking, health care, insurance) in addition to the traditional functional breakdown (auditing, consulting, taxes).

The industry's continuing efforts to improve are making a favorable impression on corporate customers. In 1990 the Conference Board surveyed 375 chief internal auditors of mostly FORTUNE 500 companies and discovered that 46% rated their relationship with their auditing firm "very satisfactory," while 41% said they were "satisfied."

Less satisfied, shareholders and legislators are demanding more from the auditor, and the AICPA is responding. In a tardy move this summer to shore up the profession's reputation for independence, it prohibited most types of loans to its members from banks and S&Ls they are auditing. Until now the accountants had displayed a collective case of Sununuitis on the propriety of such loans, insisting that they did not compromise the borrowers' independence.

The GAO report on 11 failed thrifts criticized the audit guide for S&Ls issued by the AICPA as being badly out of date. The institute responded with the unusual step of publishing the report in its entirety in the March 1989 issue of the *Journal of Accountancy*, which goes to more than 300,000 members. By August 1990 the AICPA had drafted a new, much more

PHOTOGRAPH BY AL SZABO © 1991 THE FRESH AIR FUND

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Because we all have enough to share.

A copy of the last financial reports filed with the Department of State may be obtained by writing to: New York State Department of State, Office of Charities Registration, Albany, NY 12231, or The Fresh Air Fund, 1040 Avenue of the Americas, New York, NY 10018.

comprehensive guide, which was published this fall. Says David Clark, the author of the GAO report: "The AICPA is taking great strides to ensure that its audit standards for S&Ls are strengthened. The new guide serves notice to the auditor that he or she has to be an expert in this business or has to get out of it."

Another AICPA measure that owes its existence to the S&L debacle is the rule, effective since 1989, that obliges auditors to evaluate the viability of every company they audit. If they have "substantial doubts" that the client can continue as a "going concern" for the next 12 months, they must say so unambiguously in the auditor's letter. The financial statements of more than 300 companies have been qualified on this count so far. They include Anchor Savings Bank, Eagle-Picher Industries, a diversified manufacturer, and Southland Corp., the owner of the 7-Eleven stores.

The institute is also discussing the relevance of the financial statement. A special committee that met for the first time this September is considering the need to allow more data about business risks and more forward-looking information, that is, forecasts that might include earnings projections, to appear in the annual report. Says Deloitte & Touche's Cook, a proponent of such changes: "By the time financial statements are sent to the shareholders, they are a stewardship document, not the relevant current information about the company."

RETHINKING the financial statement is long overdue. The disasters of the past decade argue strongly for a discussion of the risks and uncertainties a business faces. Auditors already evaluate these risks but under the current rules have no means to communicate their conclusions. Says Emerson: "Disclosure of business risk would also reduce the profession's liability exposure, not increase it."

Whether they want it or not, auditors are going to have to accept more responsibility for what they do even though they are doing it for less money. Class-action lawyers are waiting to pounce on the accountant who professes to be shocked when he discovers gambling at Rick's place and then does nothing about it. But if the obligations to report fraud and to assess the company's disclosure about the business risks it faces become the bulwark of the financial reporting system, audited financial statements will be not only trustworthy but valuable as well. F

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THE INNOVATION GAP

How to Win Back America's Creative Edge

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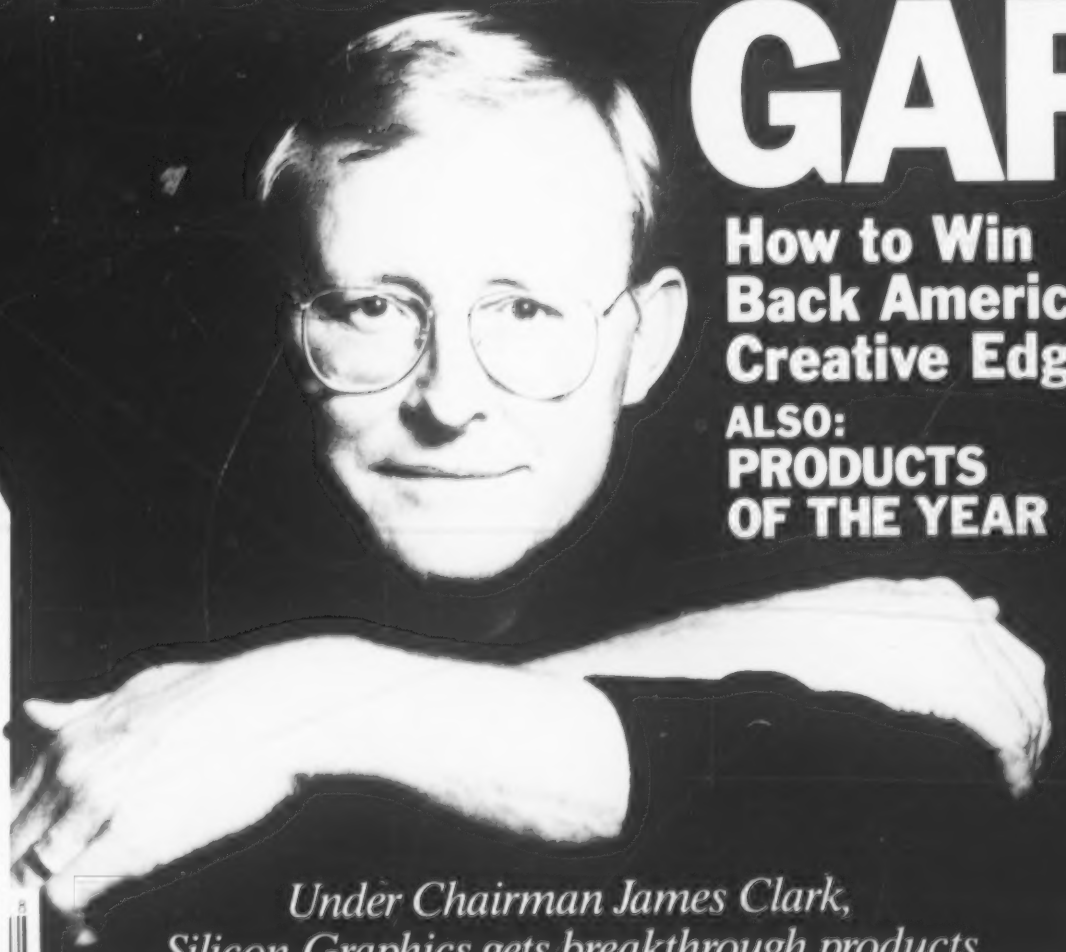
PRODUCTS OF THE YEAR



Under Chairman James Clark, Silicon Graphics gets breakthrough products to market in just 18 months.

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DECEMBER 2, 1991 VOL. 124, NO. 13

FORTUNE

"Most American managers think there's some black magic and a new product appears, but in today's market you need a way to innovate on demand." PAGE 56

ABOVE: Laura Sistos of Amgen holds a daily dose of Neupogen, a genetically engineered drug for cancer patients. Photo by Dana Fineman (Sygma).

COVER: Fineman also took this photo of Clark, who left Stanford University ten years ago to start Silicon Graphics, now a $600-million-a-year computer maker.

MANAGING/COVER STORIES

CLOSING THE INNOVATION GAP 56

America isn't creating new products fast enough for global competition. Smart executives know that developing mold-breaking ideas isn't magic—it's a process you can manage. *by Brian Dumaine*

PRODUCTS OF THE YEAR 66

Check out our 11th annual roundup of the year's best—from the Dodge Viper, Chrysler's $50,000 sports car, to a machine that puts volumes of reference books into the palm of your hand, to a camera that is probably smarter than you are. A FORTUNE picture portfolio. *by Stephanie Losee*

EXECUTIVE LIFE

HOW TO HAVE A HEART ATTACK 79

Coronaries aren't what they used to be. With new medicines and surgical procedures, more executives not only survive but even wind up healthier and wiser than before. *by Brian O'Reilly*

CORPORATE PERFORMANCE

READER'S DIGEST: ARE TIMES TOUGH? HERE'S AN ANSWER 101

Computer-savvy marketing and global reach surmount a slack economy. *by Richard S. Teitelbaum*

QUANEX: THE LESS-IS-MORE STRATEGY 102

This old-dog steel company has new tricks to teach the world. *by Peter Nulty*

THE GAP: READING THE CUSTOMER RIGHT 106

Its reasonably priced clothing changes just enough to keep shoppers coming back. *by Susan Caminiti*

COMPANIES TO WATCH 110

The sales of AutoZone, a Memphis auto parts chain, are driven by slick stores, friendly service, and low prices. *by Shelley Neumeier*

Also: Community Health Systems and Concord Camera.

AUTOS

GETTING A FIRST LOOK AT JAPAN'S NEW CARS 113

At the biennial Tokyo Motor Show, Japanese automakers displayed a cornucopia of innovative models that are lighter, safer, and friendlier to the environment. *by Alex Taylor III*

"Confidence is not going to bounce back quickly. When you have the rug pulled out from under you, it sobers you up."

PAGE 12

"Twenty-five years ago people were lucky to survive heart attacks. Most men retired. There was no running, no sex."

PAGE 79

"Our business is reading signals from the customer day in and day out."

PAGE 106

"We are capable of producing 200% of Japan's demand for rice."

PAGE 125

"Adolf was an illiterate corporal, whereas I have graduated from two higher educational establishments."

PAGE 163

"It could be one of the best deals Trump ever got. He could write *The New Art of the Deal*."

PAGE 173

POLITICS & POLICY

FARMERS: NO MORE HIGH ON THE HOG 125

Long coddled by governments, producers around the world are losing clout. A new trade pact could finally trim subsidies. *by Ronald Henkoff*

TECHNOLOGY

TECHNOLOGY TO WATCH 132

A way to make video screens flat may give U.S. computer makers a boost. *by David Kirkpatrick*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12

A sea change in U.S. confidence, more MBAs get their hands dirty, who'll drink what post-recession, life in Japan after New Jersey, and more.

DEPARTMENTS

FORTUNE FORECAST 33

It's a recovery all right, but it's still a fragile thing. *by Vivian Brownstein*

Economic Intelligence: the good-news indicators, Moynihan's modest proposal, and more.

PERSONAL INVESTING 41

The European stock markets offer a passport to profits. *by Terence P. Paré*

Also: The case for value investing, stocks to replace skimpy-yielding CDs, and Portfolio Talk with Bob Turner of Turner Investment Partners.

FORTUNE PEOPLE 173

Eisner's memories of girls, a culinary lesson from a supermarket king, and more. *by Andrew Erdman*

LETTERS TO FORTUNE 175

KEEPING UP *by Daniel Seligman* 183

EUROPE/SPECIAL REPORT

NOW THE NEW NEW EUROPE 136

The drive toward 1992 in Western Europe has converged with the growth of market economies in the old communist bloc. The result: big risks and big opportunities. *by Shawn Tully*

EUROPE'S GROWING MARKET 144

FORTUNE charts the future trading colossus called Greater Europe.

CAN EUROPE COMPETE? 147

Vital industries look wobbly. Needed: more aggressiveness, less provincialism, and lean manufacturing techniques. *by Christopher Knowlton*

STOCK TRADING WITHOUT BORDERS 157

The European Community's 12 exchanges are taking the first steps toward a more unified equity market. The technical and cultural obstacles are enormous. But so is the potential payoff as demand for shares surges. *by Karen Nickel*

WHO TO CALL IN THE SOVIET UNION NOW 163

Throw out your old Rolodex. A whole new crowd has emerged to shape this sick ex-superpower's economic future. Here are 25 people you ought to know—or know about. *by Paul Hofheinz*

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EDITOR'S DESK

Dumaine and Losee explore the dynamics of innovation with one of our products of the year.

FORTUNE has been compiling its annual list of the products of the year for over a decade now, but it's never been as hard to find standouts as it was this time. When Stephanie Losee undertook the project last August, repeated trips around the halls to ask staff about noteworthy innovations in industries they covered, and subsequent inquiries to new-product specialists, mostly produced responses along the lines of "Gosh . . . uh, let me think a minute . . . I'll have to get back to you on this." Losee, no tyro at spotting interesting new offerings—she wrote our Products to Watch department for almost a year—ended up talking to about 200 people before finally arriving at a list that met our criteria (see Managing). She blames the recession.

But maybe that isn't the only reason. Brian Dumaine first picked up on another possible explanation when interviewing industrial designers for a story a while back. "They were all bemoaning the state of innovation in America," he recalls. After looking into the facts and figures, he concluded that while the U.S. probably still has a lead in devising new products, the Japanese are gaining fast. There is a bright side to the story, though, as he points out in his article "Closing the Innovation Gap." Dumaine's reporting shows that the creative process can be managed to achieve success. For some of his examples of those who do it right, he went to—who else?—the people who created a couple of our products of the year.

Look, too, at the penetrating report international editor Don Holt and a team of writers, reporters, and designers have put together on "The New New Europe." Perhaps it's time for us all to begin learning German.

International editor Don Holt (center front) and his team took the measure of what could be the world's biggest economic powerhouse.

ASSISTANT MANAGING EDITOR

FORTUNE (ISSN 0015 8259) Published biweekly, with three issues in May and October, by The Time Inc. Magazine Company. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Joseph A. Ripp, Treasurer; Harry M. Johnston, Secretary. Subscriptions: U.S., possessions, one year (27 issues) $49.95; Canada, one year (27 issues) $53.73. Second-class postage paid at New York, NY, and at additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer inquiries: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000.
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BY TERENCE P. PARÉ

EUROPE'S STOCK MARKETS OFFER A PASSPORT TO PROFITS

■ Few events hold as much potential for gains as the coming economic unification of Europe. Though there are still plenty of stumbling blocks, analysts figure that a successful integration could add as much as 6.5% to the EC's gross domestic product over the rest of the decade. Then there is the expected gain from new trade with the old communist bloc. Notes Marcus Grubb, European Equity Strategist at UBS Phillips & Drew in London: "Europe will be one of the most profitable places to invest in the 1990s." (For more on Europe's prospects, see Special Report.)

European stocks tend to sell at slightly lower price-earnings multiples than American shares. But even that understates the value you get for your dollar. Old World accounting favors reporting lower earnings because of high corporate taxes. This keeps P/Es higher than they would otherwise be. When the stocks are measured on the more comparable basis of price to cash flow per share, European markets are even more of a bargain. The stock markets listed below sell at an average P/E that is 28% less than the average U.S. P/E. But the price to cash flow multiple of the European markets is a full 41% lower than the stateside multiple.

A Europe-bound investor has two ways to go: Buy single stocks through American Depositary Receipts (ADRs) or buy into an entire market through a closed-end country fund. These funds, which hold stocks of a particular country, have their own shares listed on a U.S. stock exchange. A sharp-eyed investor can often snare them when they are selling at a discount to net asset value (NAV), which is the value of the shares they hold in the portfolio. Says Michael Porter, Smith Barney's country fund analyst: "The name of the game is to invest in an undervalued market through a fund that is trading at a larger than normal discount to NAV." That way, he says, you have two ways to win.

Though Europe's economies have slowed lately, analysts are expecting a strong profit rebound in 1992 and beyond. The **Portugal Fund**, which is selling at a 6% discount to NAV, is just about the only easy way to get into one of the most promising markets in Europe. While the Portuguese economy has cooled somewhat from its torrid pace of recent years, its longer-term growth prospects remain superior to all other economies in the EC.

It's still old-style commerce in the Netherlands.

Spain, another bulb in the Garlic Belt, promises tasty returns as well. While enjoying 2.5% annual economic growth, Spain's government has managed to bring down inflation and reduce its budget deficit. Income from tourism, which stands at around $20 billion for 1991, should leap $7 billion next year on the back of the Barcelona Olympics. One likely beneficiary of spendthrift sports fans will be the **Growth Fund of Spain**, which trades for 10% less than its NAV.

There's a growing list of funds that offer single-country plays on France and Germany, the Continent's two biggest bourses. Of these, the **France Growth Fund** and the **New Germany Fund**, both selling at discounts, offer the cheapest ways in. Says Malcolm Clinger, chief investment officer of Swiss Bank Corp. in New York City: "Both markets are very promising."

Investors who hope for more bark from their mark may want to look at American Depositary Receipts for shares in individual German companies that stand to benefit from unification and from the reconstruction of Eastern Europe. **Mannesmann** is a favorite among Euro-analysts. The company builds machinery and factories; it is also the world's biggest and lowest-cost producer of oil pipes, with the largest potential customer in the world, Mother Russia.

A promising play in France, analysts say, is **Alcatel Alsthom**, the telecommunications equipment company. One of the two suppliers for the rebuilding of the East German

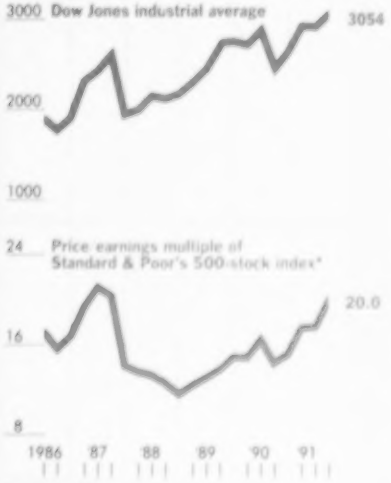
5 MARKETS TO BUY NOW

	EST. 1992 GDP GROWTH	STOCK MARKET* PRICE TO CASH FLOW MULTIPLE	STOCK MARKET* PRICE CHANGE last six months	BEST WAY TO PLAY
FRANCE	1.5%	5.9	7.5%	France Growth Fund
GERMANY	2.0%	4.7	-0.2%	New Germany Fund
NETHERLANDS	1.5%	5.8	1.5%	Royal Dutch/Shell and Unilever ADRs
PORTUGAL	2.9%	4.1	-13.2%	Portugal Fund
SPAIN	2.5%	5.1	0.1%	Growth Fund of Spain

* Figures are calculated in U.S. dollars.

STATE OF THE MARKETS

Stocks



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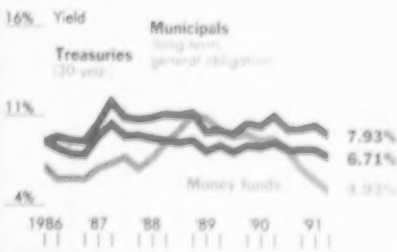


Gold

11/7

This is FORTUNE's fortnightly look at the major markets of the past five years.

CHARTS SHOW END-OF-QUARTER FIGURES.

*BASED ON EARNINGS FOR THE LATEST FOUR QUARTERS.

SOURCES: STANDARD & POOR'S, BOND BUYER, DONOGHUE'S MONEY FUND REPORT, COMMODITY EXCHANGE

FORTUNE CHART

phone system, Alcatel recently formed a joint venture with a Polish company to supply telephone switching equipment. Anita Hibbert, an analyst at Smith New Court in London, thinks Alcatel's P/E of 8.6 times estimated 1992 earnings is too low, given the company's bright prospects. Alcatel's ADRs trade over the counter in the U.S.

Since no country fund exists for the Netherlands, you almost have to buy ADRs to invest there. The choice is simple: **Royal Dutch/Shell** by itself accounts for 40% of the market capitalization in the Netherlands. Analysts think the company can pump out 16% earnings growth next year. Prospects also look good for **Unilever**, an Anglo-Dutch food company. Just helping to feed the 139 million hungry souls in Eastern Europe, reckons Sylvain Massot, Morgan Stanley's food analyst in London, could add two to three percentage points to the annual earnings growth of big, brand-name food companies like Unilever over the next 20 years.

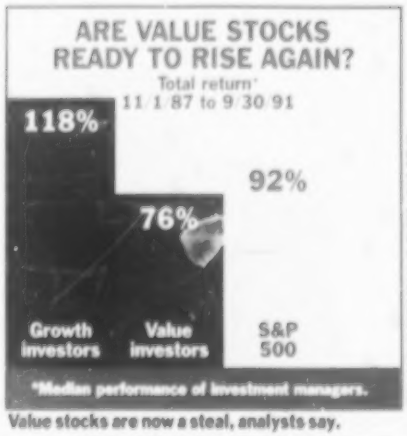
THE CASE FOR VALUE INVESTING NOW

■ Ever since the 1987 crash, growth stocks have been beating the tail off value plays, and managers who specialize in growth-stock investing are standing on top of the performance hill (see chart). But lately an increasing number of market seers say that value's day is about to return.

Value investors are used to long slumps between winnings. They tend to buy out-of-favor shares, typically those selling with high dividend yields or at low price/earnings multiples. Growth stock investors, on the other hand, will often pay a premium for companies that are expected to increase earnings much faster than average. They believe that high growth will more than make up for the higher price.

Both growth and value investing have ardent disciples, who insist their methods are the only strategies that can produce superior results. In fact, both can, but seldom in the same period. During much of the 1980s, value investing worked well as raiders went hunting for undervalued companies to buy and break up. Highflying healthy companies—growth stocks—were ignored.

After the crash of 1987, the relative performance of value stocks began to slip. The performance tables were completely turned in 1989, when the junk bond market ran into trouble and the takeover boom came to an end. According to Performance Evaluation Services, a Dallas fund-tracking service, growth stock mutual funds have outperformed value funds, 46.5% to 20.1%, since June 1989.



Value stocks are now a steal, analysts say.

Now value investing may be coming back into vogue. Research by Performance Analytics, a Chicago investment consulting firm, shows that the recent outperformance by growth stock managers and underperformance by value managers has been too extreme to last. "Never in the past 14 years has growth done so well and value done so poorly," says Robert Moseson, president of the firm.

The quarter that ended September 30 was the worst of the past 55 quarters for value-oriented money managers. By contrast, managers of funds investing in growth stocks with large capitalizations posted better numbers in only three of the last 55 quarters. Whenever the results are that divergent, a performance flip-flop is inevitable, says Moseson: "I think we will be hearing the swan song of growth stocks within the next two quarters."

Roger Hertog, who heads Sanford C. Bernstein's $16.5 billion asset management group, which is known for its strict adherence to value investing, agrees. According to the firm's analysis, value stocks are cheaper today than at any time in the 1980s. "There is plenty of work for the value investor to do right now," he says. "We expect to begin a significant positive cycle for undervalued stocks."

Investors looking to catch the rise of value stocks have many mutual funds to

CLOSING THE INNOVATION GAP

America isn't creating new products fast enough for global competition. Smart executives know developing mold-breaking ideas isn't magic—it's a process you can manage. ■ *by Brian Dumaine*

RON ZAROWITZ had an idea. Struggling to hook up a car seat for his 2-year-old daughter one day in the early Eighties, he realized that a fold-down version of such a seat could be built right into the car and offered as an option. When he became a manager at Chrysler in 1985, he was well situated to push the idea—and did he ever push it. "I brought the idea up over and over again, and every time they said, 'Why would we want to do this?'" he recalls. Scores of memos followed, and top management at last agreed to discuss the idea in 1987. "It was in the discussion phase for the next two years," says Zarowitz. The first built-in child seats appeared this fall, six years after Zarowitz proposed them, as a $200 option in 1992 Chrysler minivans. The company says it's selling them as fast as it can make them—after missing the opportunity for years.

U.S. industry isn't innovating nearly as well as it should be at a time when innovation has become more important than ever. Listen to James Clark, 47, who left a professorship at Stanford ten years ago to start Silicon Graphics, now a $600-million-a-year computer maker and one of the fastest-growing and most innovative companies in the world: "We're losing our creative edge. American industry is on the decline because U.S. managers are too concerned about protecting short-term earnings to innovate."

While the U.S. still generates more patents than any other nation, other countries, especially you-know-where, are catching up fast. A new study by the Haddon Heights, New Jersey, consulting firm CHI Research found that since 1983 Japan has gained and the U.S. has lost share in total patents in 38 of 48 product categories, particularly in office computers, electronics, transportation equipment, and shipbuilding. While U.S. R&D spending has been dragging along at about 2% of GNP, the Japanese have dra-

Terminator 2 got special effects help from Silicon Graphics, where James Clark keeps killer schedules.

REPORTER ASSOCIATE Stephanie Losee

matically increased their spending, which recently reached 3% (see chart on next page). The U.S. spent $100 billion in 1989, vs. Japan's $58 billion, for R&D outside the defense sector.

PATENT AND R&D statistics are a good indicator of where the U.S. stands in the world, but nothing says more about America's shaky will to create than its obsession with line extensions. U.S. managers everywhere seem to be taking baby steps, launching safe variations of existing products rather than going for truly new products and entering new markets. Line extensions can make a lot of money, but Honey Nut Cheerios and Diet Cherry Coke are probably not the path to world economic leadership. Says C. K. Prahalad, a University of Michigan professor and author of an upcoming book on methods for innovation: "The global and competitive battles of the 1990s will be won by companies that can get out of traditional and shrinking product markets by building and dominating fundamentally new markets." Further, as new technology spreads ever faster, even advanced products (such as personal computers) quickly become like commodities bought solely on price. So coming up with the genuinely new becomes all the more important.

How can America close the gap between the lead it ought to have in innovation and the shaky edge it now holds? Part of the problem is that innovation is risky, and taking risks is expensive in America. While interest rates look low at the moment, the truth is they've been remarkably high in recent years after adjusting for inflation and still are (see Economic Intelligence). High real rates force managers to avoid gambles that might be worthwhile if the stakes were lower and to bypass projects that don't promise a fast payback—projects that other nations, with lower real rates, will tackle.

Perhaps worse, a capital gains tax higher than in virtually any other developed country slashes the rewards of successful innovation. An adventurous startup that doubled in value over the past decade would provide its investors with a return, after inflation and the capital gains tax, of just over 1% annually. Under those rules, why bother?

Fine, you say, but unfortunately I can't change interest rates or the capital gains tax. What *can* I do? You can begin by dismissing the common American view that innovation is some kind of mysterious, divinely inspired miracle that just happens (or doesn't).

Ron Zarowitz finally sold Chrysler on his idea of built-in child seats—after six years of dogged effort.

The best companies see innovation as a function that needs managing—and then they manage it by basing new products on customers' needs, encouraging employees to use the expertise of the whole company, giving workers incentives for successful innovation, and refusing to punish those whose gambles don't pay off. One key lesson: Good ideas don't go very far unless they are nurtured and developed. Smart managers understand that meeting these challenges is more important than increasing R&D spending or building Taj Mahal–size technical centers. Says Robert Johnston, a partner of IdeaScope, a Cambridge, Massachusetts, consulting firm specializing in innovation: "Most American managers think there's some black magic and then a new product appears, but in today's market you need a way to innovate on demand."

It's easy to share the belief that there's something not strictly rational about innovation, for inventing a drop-dead new offering is a tricky business. According to Thomas Kuczmarski, a Chicago consultant specializing in innovation, only one of every 20 or 25 ideas ever becomes a successful product—and of every ten or 15 new products, only one becomes a hit.

An essential part of a creative culture is for people to lead the consumer, not follow him.

But that doesn't mean you can't inject a little science into the process. Kuczmarski and other top consultants say corporations need a dual approach. First they must create cultures where new ideas can thrive, and then they must set up systems that will winnow those ideas through development and into the market with lightning speed. A soon-to-be-released study of corporate innovation practices by the Arthur D. Little consulting firm shows that U.S. executives' greatest concern about innovation is not a lack of brilliant scientists and engineers—America still has the best—but a dearth of managers who know how to drive the creative process.

The Japanese are showing how to create cultures that foster innovation. Says James Swallow, a consultant at A.T. Kearney who recent-

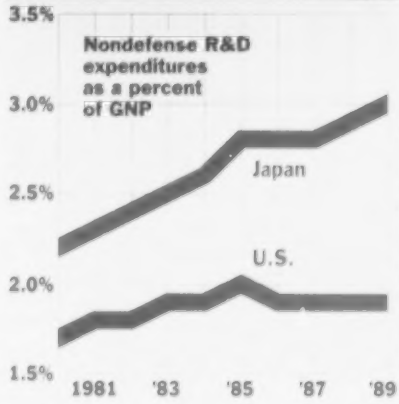
Photographs by Dana Fineman—Sygma

ly finished a study of 14 top U.S. and Japanese companies: "The Japanese were more consistent across the board in their innovation practices. They plan like demons, execute brilliantly, and yet are constantly asking how they can do better."

Peter F. Drucker, professor of social science and management at the Claremont Graduate School, noted after a recent trip that the Japanese are reorganizing their R&D so that a single team of engineers, scientists, marketers, and manufacturers works simultaneously at three levels of innovation. At the lowest level they seek incremental improvements of an existing product. At the second, they try for a significant jump, such as Sony's move from the micro tape recorder to the Walkman. The third is true innovation. As Drucker writes, "The idea is to produce three new products to replace each present product, with the same investment of time and money—with one of the three then becoming the new market leader and producing the innovator's profit."

But structure alone won't do the job. Companies need to teach their people better ways to come up with new ideas. Successful innovators like Sony, Rubbermaid, and Silicon Graphics believe you have to start with a clear vision of where you want to be ten, 20, or 30 years from now. Sony chairman Akio Morita argues that while American companies struggle to create a vision for the next quarter, Japanese companies have a vision for the next decade.

JAPAN VS. THE U.S. IN R&D ...



An essential part of a creative culture is teaching people to lead the consumer, not follow him. The result is products like Sony's diminutive Data Discman (see Products of the Year), developed after a Sony product team reasoned that executives and others would like to carry huge amounts of data with them while traveling. The process is what Robert Hall, senior vice president of GVO, a Palo Alto, California, industrial design firm, calls "needs analysis." As Hall says, "To invent products out of thin air, you don't ask people what they want—after all, who would have told you ten years ago that they needed a CD player? You ask them what problems they have when they get up in the morning."

FOR YEARS, Johnson Controls of Milwaukee, which makes climate control systems for office buildings, competed on price against rivals like Honeywell. Engineer Hugh Hudson set up a formal needs-analysis program in 1987; he and a team of eight engineers and marketers spent two years traveling Europe, Asia, and the U.S. to learn more about their customers' future requirements.

At the end of their sojourn, Hudson found to his surprise that his customers were more concerned about the total cost of installing and maintaining a Johnson system than with its initial price. When an old system broke, it was hard and expensive to fix. You had to shut down the heat or air conditioning in the whole building and then disconnect a lot of wires, facing a danger of electrocution. To change that, Hudson and his team designed an entirely new system called Metasys. Now to fix a problem, a building owner need only pull out a gray plastic module and slip in a new one—no screwdrivers or tools necessary.

Though Metasys costs more to make than the old system, it costs less to install and is easier to maintain. Introduced in January 1990, it brought in $500 million of revenues in its first year. What about its effect on the industry? A Dean Witter report downgraded competitor Honeywell's stock based in part on the market share gains by Johnson's new system.

But judging the customer zeitgeist can be enormously difficult; you must always be on the lookout for countertrends, complications, and shifts. Campbell Soup found this out with its Souper-Combo frozen food line. The company thought it had a great idea—take its famous soup, add a sandwich, and make both microwaveable for busy moms and dads. The company conducted enormous amounts of testing, talking with retailers and consumers, letting them taste different samples. The tests showed that people loved the idea, so Campbell launched Souper-Combo in 1989.

Rubbermaid borrowed a molding technique from its cooler business to create this line of furniture.

This January the company killed the product. What happened? Campbell missed an important, emerging trend. Consumers wanted healthier foods. As Campbell was rolling out Souper-Combo, competitors launched a number of low-fat, low-salt, frozen microwaveable foods that pushed Souper-Combo off the shelves. Says Elizabeth Senior, Souper-Combo's project director: "We learned we have to apply more personal judgment, insight, and thought to what we see around us. We have to keep our antennae up."

RUBBERMAID TEACHES its people to let ideas flow out of its so-called core competencies, the things it does best. Bud Hellman, who used to run a Rubbermaid subsidiary, was touring one of the company's picnic-cooler plants in the late Eighties when he suddenly realized he could use its plastic blow-molding technique to make a durable, lightweight, and inexpensive line of office furniture. The result was the WorkManager System, which the company says accounts for 60% of its furniture division sales. Says Charles Hassel, a member of the product development team: "If top management hadn't encouraged us to look at processes and technologies elsewhere in the company, none of this would have ever happened."

Toro, a Bloomington, Minnesota, maker of mowers and other lawn equipment, fosters individual innovation by letting it be known that risk takers won't be penalized for new ideas that fail. A team of young engineers thought they could save time and money by using an experimental molding technique to make the metal hoods on Toro's sit-down lawn mowers. After adding the process to the assembly line, the engineers found it didn't work well at high production levels—and Toro lost a year of mower sales. When CEO Kendrick Melrose summoned the engineers to his office, they thought it was pink-slip city. But when they walked in they saw ribbons and balloons on the walls and a cake to celebrate the risk they took. Nor was the engineers' gamble a total loss: the company is using the molding process on other products where it works better.

Another way Toro fosters innovation: The company keeps an independent inventor on retainer. Bob Comer has worked under contract for 23 years and likes the fact that his independence keeps him out of office politics. Says he: "It's a real stimulant." In 1983 the company asked him to improve its aerator for golf greens. An aerator is a machine that uses metal pipes to punch holes in the ground, loosening the soil and helping the grass to grow. The problem is that aerators make a mess, leaving small plugs of dirt all over the greens. Golf courses typically must close for up to a week and lose lots of revenue while they clean up all the little dirt cylinders.

Toro pays inventor Bob Comer for breakthrough ideas such as this water-injecting golf green aerator.

In an impressive leap of imagination, Comer figured that if he used jets of water to poke holes in the green there would be nothing to clean up. How did he think of that? "You never know why or how the flash comes. It just does." After a few years of tinkering, he came up with the Black Widow, a prototype the size of a small truck with wires and hoses extending from it like the legs of a spider. Launched last year, Toro's HydroJect is outselling the competition 2 to 1. If he wasn't independent, Comer might have long ago succumbed to office naysaying. Says he: "Mostly what I do is never used. But that doesn't bother me. My job lets me work in a never-never land."

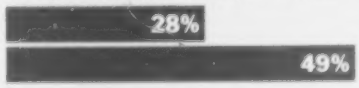
The top innovative companies know that the greatest idea in the world won't earn a dime if it isn't taken beyond the concept stage properly—and many U.S. companies don't seem to know what to do with good ideas. As Johnson Controls' Hugh Hudson puts it, "Most companies fail in execution. It's what separates the Japanese from us. You can have the best technology in the world, but if you don't execute well, forget it."

To spur new ideas, Bell Atlantic started what it calls its Champion program. Any employee with a good idea gets to leave his job for a while at full pay and benefits and receive training in such skills as writing a

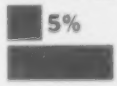
... AND IN NEW PRODUCTS

Japanese spend more time planning ...

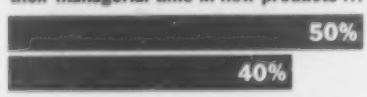
... suffer development setbacks in a smaller proportion of products ...



... and waste less of their time debugging finished products.



Japanese companies invest more of their managerial time in new products ...



... and receive more revenues from them.

business plan and organizing a development schedule; he also gets money to invest in the idea. He becomes the idea's champion, with a strong incentive to develop it successfully: He can invest 10% of his salary in the project and give up his bonus in return for 5% of the revenues (subject to certain caps) if the product gets to market. Champion has generated two patents with 11 more pending since the company started the program in 1989. It has produced a successful new device for trouble-shooting telephone switching problems and a phone that's small enough to fit in your ear.

ONE OF THE MOST common development problems is that by the time a product gets to market, it looks little or nothing like the original idea that so excited everyone. At every step people try to change the idea, adding their own improvements and sometimes unintentionally making the product worse. To avoid such meddling, the Japanese spend more time than Americans do in planning. Once everyone decides what the product is—its features, color, shape, price—the company sticks to those specs. A.T. Kearney's study showed that because Japanese companies spend more time planning new products than Americans do, they experience far fewer interruptions during development and fewer problems after launch.

Chrysler, the company that resisted Ron Zarowitz's idea for so long, has learned some lessons about development. Glenn Gardner heads the giant LH project, which is developing a whole new line of cars scheduled for delivery next year, and endorses the Japanese approach of settling on specifications as late as possible and then sticking to them. The way people can spend more time planning, discussing, and debating the product's characteristics—and afterward, everyone knows that a change would seriously delay the project. Gardner says that since he adopted this method, top management has yet to intercede with a major change, the first time that has happened in his 30-plus years in the auto industry.

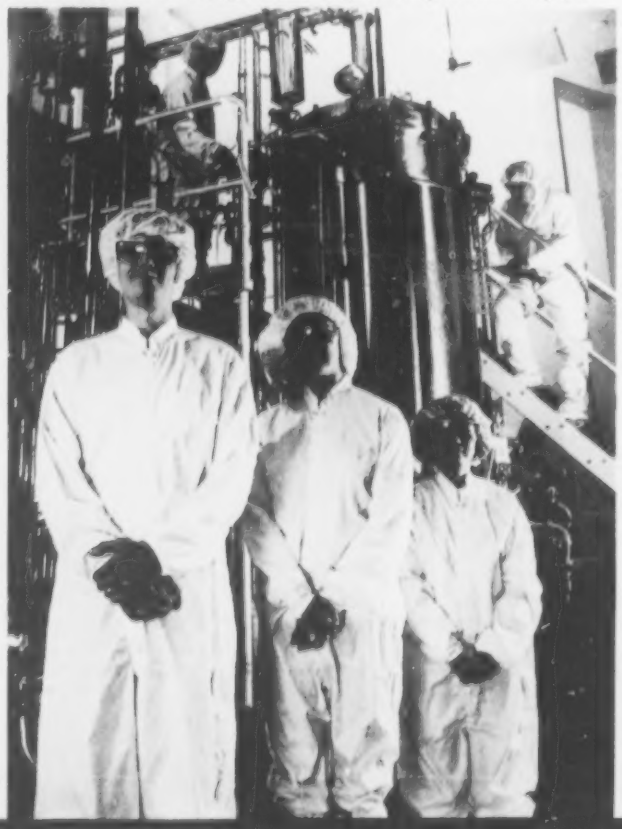
With global competition red hot, rushing new products to market is more important than ever. Silicon Graphics uses a rigorously scheduled process that has enabled it to develop and launch most of its breakthrough products in less than 18 months. The company closes each project down the second it is finished and goes on to the next. That way Silicon Graphics' high-strung engineers, who like to be constantly challenged, don't have to linger after the launch to fiddle with this feature or that. It keeps their interest high. Says Tom Jermoluk, Silicon Graphics' executive VP and head of product development: "Forget the incremental stuff. Go 95% of the way and launch. If you wait until you get 100% of what you want, you'll surely get beat to market by the competition."

Japanese companies settle on specs as late as possible—and then stick to them.

Even with that kind of compromise, the company gets impressive results. Silicon Graphics makes high-powered computers that run software designed for a multitude of purposes. Plastic surgeons, for instance, can redesign a person's face on a screen to see what he would look like after an operation. Moviemaker George Lucas's Industrial Light & Magic used a company system to create the spectacular special effects for Arnold Schwarzenegger's megahit, *Terminator 2*. One of the company's computers that cost $75,000 in 1989 was succeeded 18 months later by a new system, just as fast, for under $10,000.

Amgen supercharges development by getting people to focus on how their product affects the world. This Thousand Oaks, California, biopharmaceutical firm makes Neupogen, a genetically engineered drug that helps prevent infections in cancer patients and is another of FORTUNE's Products of the Year. Amgen employees passing company bulletin boards constantly see letters from parents of smiling kids who used the drug during clinical trials and now are out of the hospital and back in school.

These workers make Neupogen, which Amgen developed remarkably fast.



While most pharmaceuticals companies need two or three months after FDA approval to launch a new drug, Amgen got its lifesaver into patients' hands in a mere 48 hours. This meant spending $150,000 to hire a jet to airlift Neupogen from the company's bottling plant to its distribution center. Says Mike Narachi, the leader of the Neupogen product development team: "We lost some money on the jet, but we got a lot of mileage out of our morale."

Despite the lessons of the best innovators, most managers continue to think innovating is just a matter of turning the spigot labeled R&D. That's not enough. As the University of Michigan's Prahalad says, "More money on R&D is money down a rat hole if you don't change the process." And the sooner you start managing the process better, the sooner you'll find that innovation more than pays for itself. F

EUROPE'S GROWING MARKET

By the turn of the century we will be talking about Greater Europe, one huge trading area of 450 million people living in at least 25 countries from Finland to Portugal to Bulgaria. The main trading bloc right now is still the dozen-member European Community. The baker's dozen outside want in. First in line is the European Free Trade Association, or EFTA, comprising six countries that already do nearly 60% of their trade with the EC. EFTA has just approved a pact that virtually integrates its members into the Common Market. Two EFTA countries, Austria and Sweden, are seeking full EC membership. Next are Czechoslovakia, Hungary, and Poland, which have agreed to open their markets to EC products within ten years. In the rear are Albania, Bulgaria, Romania, and Yugoslavia. Though they have various trade agreements with the EC, they need to develop their home markets first.– **Sara Hammes**

EUROPEAN COMMUNITY

1990 data in each table	BELGIUM	BRITAIN	DENMARK	FRANCE	GERMANY	GREECE	IRELAND	ITALY	LUXEMBOURG	NETHERLANDS
Population in millions	9.9	57.2	5.1	56.4	79.5	10.0	3.5	57.7	0.38	14.9
GNP in billions	$197.1	$979.9	$125.5	$1,190.2	$1,648.8	$67.3	$37.1	$1,077.5	$8.9	$278.0
GNP per capita	$20,013	$17,119	$24,426	$21,088	$20,740	$6,697	$10,600	$18,687	$23,560	$18,608
Inflation rate	3.4%	9.5%	2.6%	3.4%	2.7%	20.4%	3.4%	6.5%	3.7%	2.5%
Trade balance in millions	–$1,769	–$31,131	$4,566	–$13,954	$65,230	–$10,178	$3,977	$723	N.A.	$10,466
Persons per TV set	3.2	3.0	2.7	2.5	2.6	5.7	3.8	3.9	4.0	3.2

[1]GDP. [2]GDP per capita. [3]Estimate. [4]West Germany only.

Linked With EC Through a Free-Trade Agreement

	AUSTRIA	FINLAND	ICELAND	NORWAY	SWEDEN	SWITZERLAND
Population in millions	7.7	5.0	0.25	4.2	8.6	6.7
GNP in billions	$157.9	$137.3	$5.5	$103.1	$220.0	$228.0[1]
GNP per capita	$20,485	$27,681[1]	$22,047	$24,316	$25,701	$33,979[1]
Inflation rate	3.3%	6.1%	15.5%	4.1%	10.5%	5.4%
Trade balance in millions	-$10,034	$768	$79.5	$7,625	$3,478	-$6,014
Persons per TV set	2.8	2.7	3.3	2.9	2.4	2.9

[1]GDP. [2]GDP per capita. [3]Has applied for EC membership.

Seeking Associate Status With the EC

	CZECHOSLOVAKIA	HUNGARY	POLAND
Population in millions	15.7	10.6	38.2
GNP in billions	$42.0	$31.1	$89.4
GNP per capita	$2,680	$2,940	$2,340
Inflation rate	16%	29%	684%
Trade balance in millions	-$5,386	-$2,375	$2,321
Persons per TV set	3.7	2.5	3.8

PORTUGAL	SPAIN
10.5	40.0
$59.5	$487.1
$5,647	$12,503
13.4%	6.7%
-$6,580	-$29,566
6.4	2.6

Having Trade Agreements With the EC

	ALBANIA	BULGARIA	ROMANIA	YUGOSLAVIA
Population in millions	3.2	8.9	23.2	23.9
GNP in billions	$2.0	$19.6	$42.3	$148.7
GNP per capita	$625	$2,220	$1,820	$6,210
Inflation rate	30%[1]	65%	75%	588%
Trade balance in millions	$40[1]	-$2,565	-$1,780	-$4,563
Persons per TV set	10.0	3.3	6.0	5.7

[1]1991 estimate.

JEAN HELD FOR FORTUNE / SOURCES: IMF, PLANECON, DRI, EMBASSIES

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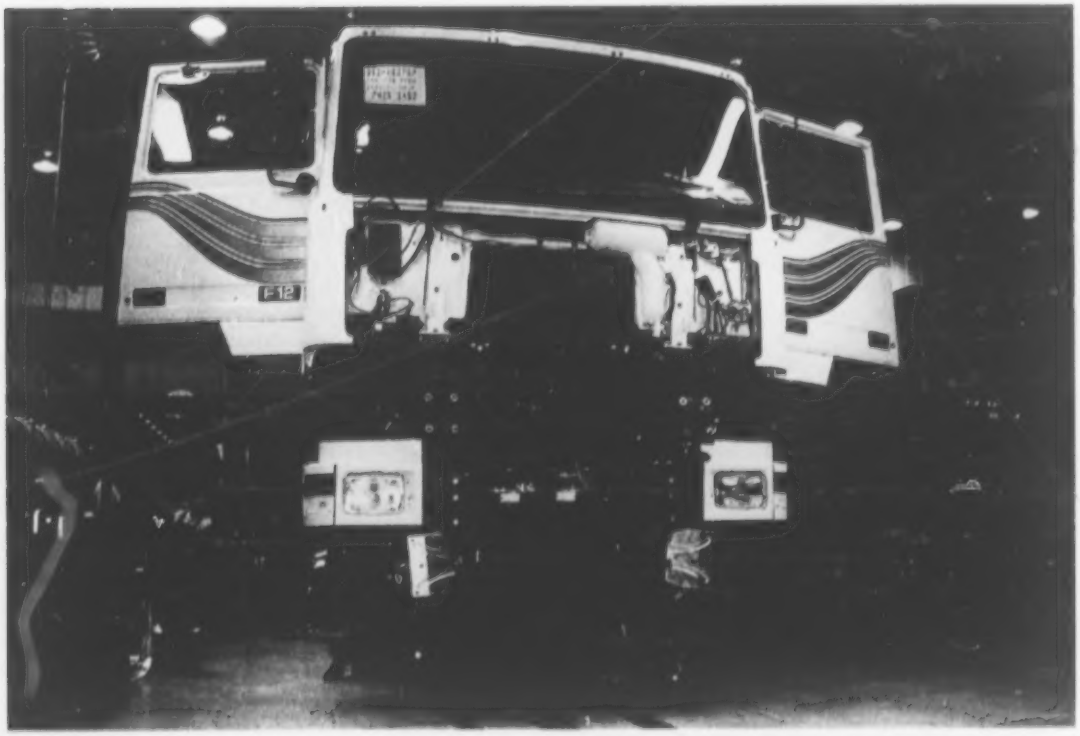
CAN EUROPE COMPETE?

Vital European industries like autos and electronics look wobbly. Needed: more aggressiveness, less provincialism, and the speedy adoption of lean manufacturing techniques.

■ *by Christopher Knowlton*



European carmakers are falling behind the Americans, let alone the Japanese, but they are world leaders in heavy trucks. This Volvo is being assembled in Ghent, Belgium.

HOW FAT, or fit, is European industry? Are Europe's big manufacturers, as protectionists there would have you believe, a bunch of nymphs, soon to be victims of invading satyrs in the form of foreign competitors? Or are they, as the free-marketers maintain, the lurking Tarzans of the global business jungle who need only beat their chests and ululate to repel intruders?

The question matters more than ever now because the emergence of a unified market has turned Europe into a such a furiously competitive battlefield. Entire sectors are being fought over by local companies and foreign multinationals. Hundreds of thousands of jobs are at stake and so, arguably, is Europe's enviably high standard of living.

The past few months have lent credence to the nymph scenario. Rover, the British car manufacturer, and France's Peugeot announced their retreat from the U.S. market. Britain's Rolls-Royce lost a $700 million British Airways jet engine order to American archrival General Electric. Philips, the Dutch electronics giant, pulled out of two big markets in Europe in favor of U.S. companies, selling its home appliance business to Whirlpool and its computer systems division to Digital Equipment. *continued*

REPORTER ASSOCIATE *Thomas J. Martin*

PHOTOGRAPH BY JOHN STURROCK—NETWORK/MATRIX

quickly and at amazingly low cost.

Though long aware of the threat from Japan, Europeans have yet to embrace the new methods. The MIT study puts it bluntly: "European companies have sought to perfect mass production as the Japanese have continued to perfect leanness, and they are much further behind than the Americans were in 1980—off the pace by a factor of three or four in many countries in terms of fundamental productivity."

THE SERIOUSNESS of this lag cannot be overstated. Europe's competitiveness in manufacturing will largely determine the quality of life for its people and its status as an economic power. Here's how Europe stacks up today against Japan and the U.S. in three of the world's most valuable industries: motor vehicles, electronics, and chemicals and pharmaceuticals.

■ **MOTOR VEHICLES.** The industry in Europe employs nine million people and accounts for 9% of manufacturing output. The EC runs a trade surplus with the rest of the world largely because it restricts Japanese imports and because Ford and GM build cars in Europe rather than import them from the U.S. Productivity (output per employee) increased about 39% between 1980 and 1988, thanks to restructuring and a heavy investment in robotics and new manufacturing processes.

It hasn't been enough. The Japanese competitive advantage is well known but bears repeating: They make cars with fewer defects, in smaller spaces, with workers who have twice as much training as their European counterparts and exhibit less than half the absenteeism. According to the MIT study, using data from 1989, the Japanese take 16.8 hours on average to produce a car in Japan; the Americans require 25.1 hours; the Europeans need 36.2 hours.

Perhaps most worrisome is the difference in product development times. The Japanese can design, develop, and deliver an entirely new car in 46 months, using an average of 1.7 million hours of engineering effort. The Europeans and Americans take 60 months and three million engineering hours. This means that product life cycles are shortening, which puts profit pressure on smaller, regional producers—the Europeans—who come to the market with fewer new models and older designs. Worse, it means that Japan's competitive advantage in cars is accelerating.

Currently the Japanese hold 11.6% of the European market, vs. 30% in the U.S. Stymied by quotas, they have just 3.5% in France and 2% in Italy. For how they might do, look at their share in countries without restrictions, such as Belgium (20.1%), Denmark (35.9%), and the Netherlands (26.7%). Japan's share in Europe as a whole is expected to reach 16% (including 9% of the French market) by the end of 1991 when, in theory, all restrictions will lapse.

Each of Europe's carmakers defends a market share of 9% to 15%. If Japanese companies take another 6% to 10% of the total, industry experts expect Fiat, Peugeot SA, and Renault to be hit hardest. Peugeot's recent retreat from the U.S. market, where it sold two luxury models, the 405 and the 505, underscores its problems. The competitive crucible of the U.S. market gives carmakers the experience and discipline needed to achieve worldclass standards, if they can take the heat.

The $105 billion automobile components industry suffers from a similar affliction. According to a study conducted for the EC by the Boston Consulting Group and PRS Consult-

HOW EUROPE'S COMPANIES COMPARE

Number of companies on Fortune's Global 500 by industry

INDUSTRY	EUROPE	U.S.	JAPAN
Aerospace	6	10	0
Apparel	0	2	0
Beverages	7	4	2
Building materials	8	5	3
Chemicals	18	14	9
Computers (including office equip.)	3	9	3
Electronics	10	16	15
Food	14	21	8
Forest products	6	12	5
Furniture	0	1	0
Industrial & farm equipment	13	8	6
Jewelry, silverware	0	0	1
Metal products	7	4	6
Metals	18	7	9
Mining, crude-oil production	7	0	0
Motor vehicles/parts	14	7	17
Petroleum refining	16	16	7
Pharmaceuticals	7	10	2
Publishing, printing	4	4	2
Rubber & plastics products	3	2	4
Scientific & photographic equip.	0	5	2
Soaps & cosmetics	3	3	2
Textiles	1	1	4
Tobacco	3	3	1
Toys, sporting goods	0	0	1
Transportation equipment	1	0	1
TOTAL	169	164	110

Bigness isn't always better, but it can provide two distinct competitive advantages—financial strength and economies of scale. Europe remains powerful in chemicals and pharmaceuticals, food and beverages, and refining.

Europeans may not be leaders in *making* many products anymore, but they sure ought to be able to paint them. The chemical giants of Europe dominate the world paint market. This ICI plant is in Slough, England.

ing International. Japanese producers have higher productivity and product quality, and faster design-development-delivery cycles. They also achieve more product variety at a lower cost.

A few automotive niches are healthy. Says Garel Rhys, an auto expert and professor at the University of Wales: "Cars get all the publicity, but Europe's real competitive advantage is in heavy trucks. It may be our best multinational industry." Daimler-Benz, Volvo, and Renault together have nearly 50% of the U.S. market. European buses sell equally well.

■ ELECTRONICS. The electronics industry, broadly defined, should grow faster than any other in Europe through the end of the century. On a worldwide basis its revenues should increase some 9% annually, or almost three times the rate predicted for the world economy. It is also the largest single industry in Japan, South Korea, and Taiwan. In 1988 Europe ran a $29 billion trade deficit in electronics.

As in carmaking, the plethora of national champions handicaps Europe: Siemens in Germany, Bull and Thompson in France, Olivetti in Italy, Philips in the Netherlands. Most lost money in 1990, and only Alcatel Alsthom, Siemens, and Philips have sales of more than $15 billion.

High-volume global companies like IBM, Compaq, Digital Equipment, and Apple easily took away most of the European market. ■

In computers, the largest segment of the industry, the Europeans have paid a high price for being small and parochial. Customer loyalty and national allegiance count for little when it comes to buying computer equipment. Over the past decade high-volume global companies like IBM, Compaq, Digital Equipment, and Apple easily took away most of the European market from local competitors.

The story isn't much happier in microchips, the heart of the electronics industry. Europe is fighting back with a government-backed consortium of companies known as Jessi (Joint European Submicron Silicon Initiative). The hope is to develop top-notch semiconductor know-how by 1996, in time for such new technology as high-definition television. And individual companies are launching joint ventures with foreigners on the principle if you can't beat them, join them: Siemens and IBM to build DRAMs, Philips and Matsushita to develop a remote-control device to operate different brands of TV sets, compact disk players, and video recorders.

Europe's electronic giants do excel at telecommunication and medical equipment. And European household appliances get high ratings for their design features and use of advanced plastics. The EC also has strength in TV color picture tubes, which account for 40% of the cost of a set. But the competitive advantage is only at the upper reaches of the market, in the fabrication of large flat square tubes. Cheap Korean sets have all but seized the low end.

Europe, led by Thorn Lighting, Philips, and Siemens, also remains world leader in light bulbs. Faster growth of imports over exports, however, in this segment suggests that Europe may be conceding its advantage.

European electronics producers have a good record as innovators. Philips developed the first compact disk player and now has ambitious

plans for a new generation of electronic products featuring the digital compact cassette, due out next spring or early summer. And European companies are competing hard to develop HDTV, although the Japanese are already producing hardware in limited, expensive amounts. The Europeans' best hope is to leapfrog the first generation of Japanese HDTV products.

Still, important as innovation may be in this market, there is no substitute for quick, lean manufacturing. Products like CDs, camcorders, and VCRs blow into stores, reach saturation levels in a few years, and then are replaced by the newer gadgets. The Japanese are superb at playing this fast-moving game.

■ CHEMICALS, PHARMACEUTICALS. Mop your brow, blow a whistle of relief. Here at last is an industry where Europe leads the world, running up a $27 billion trade surplus in the process. The chemicals sector is the third-largest industry in the EC after food and beverages, and motor vehicles. Size and financial strength are competitive advantages in this capital-intensive game because the bigger the company's global footprint, the better the economies of scale.

Europe is home to seven of the ten largest chemical companies: BASF, Bayer, Hoechst (all German), Imperial Chemical Industries (British), Rhône-Poulenc (French), Norsk Hydro (Norwegian), and Ciba-Geigy (Swiss). The other three are American: E.I. du Pont de Nemours, Dow Chemical, and Monsanto. The Japanese are primarily regional operators, in Asia and the Pacific Rim.

To dodge the cyclicality of their industry, most companies are expanding into specialty chemicals, where the margins are fatter and safer. Many of these products require extremely complicated manufacturing processes, as many as 30 steps for some chemicals. Oil is the chief foodstock, so there are competitive advantages to being connected to an oil company, as Shell Chemicals is with Royal Dutch/Shell Group.

Europe has great strength in the world paint market, but painimakers from the U.S., Japan, and India (UB Group), facing highly competitive markets at home, are stepping up their investments in Europe. Only one U.S. company, PPG, is among the top ten in Western Europe. Three European companies (ICI, BASF, and Akzo) are among the top ten paint suppliers in the U.S. According to *Chemical Outlook International*, they have 20% of the American market among them.

Europe also is the world's largest producer of pharmaceuticals. The industry benefits from an exceptionally strong scientific community in many countries. The companies are well managed and are doing what needs to be done to keep their competitive

edge: spending heavily ($6 billion last year) on R&D and expanding internationally. Britain's Beecham bought SmithKline Beckman of the U.S. two years ago. Rhône-Poulenc bought 68% of Rorer last year. British-based Glaxo has been doing business in Japan for some 17 years and is stepping up its efforts there despite a distribution system that has been described as "more impenetrable than the Gordian knot." Says Chairman Sir Paul Girolami: "If we hadn't entered the Japanese and American markets, we wouldn't be independent now, and we wouldn't deserve to be."

Make no mistake, the Japanese are coming. The regulatory authorities in Japan are lowering the domestic prices of drugs, which will force companies to expand abroad. Already Japanese drug companies are taking small positions in Europe, buying up little companies that give them some local manufacturing and distribution, primarily in generic drugs.

Whether the Japanese succeed in Europe depends largely on their ability to establish effective distribution channels. Webs of regulations in each country have kept the market highly fragmented. The key, of course, is to foster good relationships with doctors and hospitals. Local European drugmakers have a huge head start.

Japanese drugmakers may gain some advantage from their facility at lean manufacturing. But Western manufacturing standards in this industry are high too, so the advantage may not be decisive. Says Richard Barker, a principal at McKinsey & Co.: "The Japanese are not going to overrun the European pharmaceutical market in the 1990s. Over the long term, though, there is no reason why they shouldn't get their share of worldwide markets in an industry that is inherently global."

■

As Europe's big producers maneuver for position in the single market emerging, there is a danger that they will overlook the landmark industrial developments transpiring in other parts of the world. They've done it before. As the authors of the MIT study write: "Early in this century, most Europeans were unable to differentiate the universal ideas and advantages of mass production from their unique American origins. As a result, ideas of great benefit were rejected for a generation. The great challenge of the current moment is to avoid making such an error twice."

To benefit fully from the opportunities at home and abroad, the Europeans must focus on raising their productivity and quality standards to those of the world's most competitive companies. To do that they must embrace teamwork, just-in-time inventory delivery, statistical quality control, and the other integrated techniques of lean manufacturing. And they must do so fast. ■

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STOCK TRADING WITHOUT BORDERS

The European Community's 12 exchanges are taking the first steps toward a more unified equity market. The technical and cultural obstacles are enormous. But so is the potential payoff.

■ *by Karen Nickel*

THE crowning jewel of Europe's economic integration will be a unified European capital market, where companies large and small can scoop up equity money anywhere in Europe, and investors from Dublin to Düsseldorf can buy shares from each other's countries cheaply and easily.

The architects of this megamarket envision a pan-European system that would deliver a share of Fiat as easily as one of Unilever to anyone, anywhere. Brokers from one country in Europe would operate freely in every city with a so-call'ed European Passport that would grant them all the privileges of a local firm.

The plan is a natural consequence of the steps currently under way to unite Europe's economic systems. But organizational blueprints aren't the only thing driving the move to a common capital market. Customers are demanding it. Cash-hungry companies throughout the EC are already looking beyond their national borders for markets that can provide low-cost equity financing. With many European banks emphasizing international growth over domestic lending, a lot of corporations that traditionally relied on banks for capital are now looking to the equity market for money.

A further gush of equity is expect-

The building housing Madrid's trading floor dates back to 1893. The computers that handle trades date from 1989.

PHOTOGRAPH BY ROBERT ROYAL

ed to come from thousands of private European companies started right after World War II. As the family heads of these small and medium-size firms step down without heirs interested in taking over, boards may seize the opportunity to take the companies public.

Demand for shares is also expected to surge in the years just ahead. Faced with an anticipated decline in interest rates, European pension funds will begin to look more at investing in stocks. And there will be more pension money to invest. In the U.S., some 70% of private sector savings is in the form of institutional pension funds. In Germany and France, it is less than 5%. But this number is expected to go up as an expanding legion of retirees forces companies to build up pension reserves. Says David Roche, an international strategist at Morgan Stanley in London: "Pension funds are about to become Europe's new growth industry." As pension assets swell, the demand for equities should surge.

The capital market envisioned for a united Europe would satisfy all these demands. It aims to have the EC's biggest companies cross-listed on all the major stock exchanges but to have companies report their financial statements only in their home countries. It would eventually include Europe's non-EC members, such as Switzerland and Austria. By making cross-border securities trading easier, Europe's planners hope to stimulate growth in all the equity markets.

Europe's stock markets can use the boost (see the market capitalization numbers below). With the exception of London, which has more listed stocks than New York's Big Board, most European markets are underdeveloped relative to the size of their economies. They currently have some of the lowest equity-to-GDP ratios in the world, and the few stocks listed totally dominate their exchanges. The market value of the top ten domestic stocks on the New York and Tokyo exchanges amounts to only 15% to 20% of their respective markets' total capitalization. But in Germany, Belgium, Spain, and Italy, the top ten stocks account for about 50% of the market, and Amsterdam's corresponding figure is 80%.

With the exception of London, most European markets are underdeveloped relative to the size of their economies. ■

So far the small movements toward market integration have been as harmonious as merging a punk rock band with a classical string quartet. The ambitious designs are being slowed by national rivalries, out-of-date market regulations, language barriers, and local corruption.

European stock markets can overcome such obstacles. Indeed, Europe's bond market has successfully transcended national boundaries. Integrating the equity markets will not be so easy. The bond market is wholesale—institutional investors move quickly and quietly, practically without government regulation. The only goals are liquidity and transactions at the lowest cost.

But equity markets serve small investors too. That means there must be laws to protect the little guys, as well as regulations to require institutions to reveal more about their dealings—something regulators call "market transparency."

That's easier said than done. Though some markets, like Paris's, are highly transparent, revealing volumes and prices within seconds of a trade, others, like Milan's, remain mired in outmoded practices that keep information from reaching investors quickly. Nearly three-quarters of Italy's stock trades are made off-market by banks and brokers, which privately match customers' orders. Price information on these trades may not be available until the next day. Italian authorities say that should change in 1992.

So, too, if small investors are to have confidence in markets, governments will have to tighten regulation and enforcement. In Germany the legislature is only now considering a formal law to ban insider trading. Other countries have their own problems: The Milan stock exchange has dealt with two cases of large-scale fraud in recent months.

The European Commission, which is overseeing plans for Europe's economic union, has drawn up some

Reporter Associate Noel E. Field

How Europe's Markets Stack Up

STOCK MARKET	MARKET CAPITALIZATION $ billions	% OF EUROPE'S MARKET CAP	ANNUAL VOLUME $ billions	NUMBER OF COMPANIES LISTED
London[1]	$861.9	41.6%	$305.6	1,946
German exchanges[2]	$356.4	17.2%	$544.2	413
Paris	$306.7	14.8%	$123.0	443
Milan	$149.1	7.2%	$45.7	220
Amsterdam	$125.8	6.1%	$43.7	125
Madrid	$123.5	5.9%	$38.9	431
Brussels	$65.7	3.2%	$7.3	176
Copenhagen	$39.1	1.9%	$12.0	248
Athens	$15.4	0.7%	$4.0	140
Luxembourg	$10.5	0.5%	$0.2	54
Dublin[1]	$10.4	0.5%	$3.0	51
Lisbon	$9.0	0.4%	$1.3	152
New York	$2,819.8	N.A.	$1,336.2	1,774
Tokyo	$2,793.6	N.A.	$1,375.1	1,627

[1]Includes domestic shares only. [2]Consists of Frankfurt and seven other regional exchanges.

The combined capitalization of all EC markets is just over $2 trillion, putting it in a league with New York's and Tokyo's. The listing of funds set up to raise money for Germany's reunification helped boost trading volume last year.

The Frankfurt exchange handles about 60% of the trading volume in Germany, with the rest going to seven smaller exchanges throughout the country. Frankfurt is the country's main exchange for international stock trades.

guidelines for the exchanges but has little power to enforce them. EC officials are counting on market forces to prompt wayward exchanges to clamp down. They believe that once the unified market is established, trading will probably drift away from exchanges that do not adhere to EC standards.

Despite these difficulties, Europe's financial market chiefs are making some headway. The next big step toward market unification will take place when the EC's member exchanges approve Eurolist, a proposed cross-listing of over 250 of Europe's blue-chip companies on all exchanges in the EC. Though some EC countries are urging delays in the Eurolist launch, optimists hope it can get off the ground in the next year or two. Some 50 well-known European companies, like Bayer and Royal Dutch Shell, are already listed on several exchanges within the EC. But it takes myriad listing fees and mounds of paperwork to satisfy each nation's financial reporting requirements. One European company that trades on six different exchanges reports that its annual listing fees for all these exchanges total $50,000 to $60,000, and the cost of meeting the differing disclosure requirements amounts to nearly $1 million a year.

Eurolist would reduce listing charges to a single fee and allow companies to satisfy all reporting requirements by simply meeting their home country's reporting rules. It would also be a boon for European investors, since it would allow them to buy stocks outside their home market without paying extra commissions.

THOUGH SUCH STEPS are designed to foster cooperation among EC exchanges, they have lately been stirring competition. With Eurolist, for example, trading of a company's shares is expected to remain largely in its home market—German investors would buy Siemens stock on one of the country's eight exchanges. But other exchanges would compete for an increasing share of the international trading volume in these stocks, most of which now goes through London. Britain's market planners expect to retain a substantial part of its European business because of the London Stock Exchange's computerized trading system for international stocks, called SEAQ International. It can swiftly handle trades in more than 600 international stocks. But the competition is heating up. Germany, which boasts the highest domestic trading volume in Europe, has developed its own trading technology, known as IBIS, which allows for immediate transmission of trading data to the exchange's clearing system. France is tooling up its exchange as well with a new computerized clearing and settlement system that began operation this year. Most of Europe's other exchanges are on the computer bandwagon as well.

The heavy investments in technology are making a big dent in the exchanges' budgets. Says one official in Paris: "We have a very difficult situation: Trade volumes are low, fixed costs of stockbrokers are high, and we have to invest in new systems and rack our brains on what strategy we need."

The technological advances will bring gains. Even if these systems aren't as compatible with those in other countries as everyone would like, they will greatly increase the ability of the various markets to handle big trades and to settle those trades in an acceptable time. That will enhance the attractiveness of Europe's smaller markets, like Dublin and Lisbon, where the biggest obstacle to investment has been a lack of liquidity. Spain was a backward market in the mid-Eighties, but heavy investment in technology has made it a more hospitable place for international investors. It is now viewed as one of the most promising places to invest in Europe (see Personal Investing).

Europe's exchanges are still searching for the middle ground between competition and cooperation. Balancing these two ideas is critical to the success of Europe's financial services industry. Whether Eurolist succeeds, says Malcolm Duncan, an international stock market consultant, "depends on whether European or national priorities have the upper hand." Each exchange is rightfully proud of its own developments and reluctant to submit to the rules and technology of other countries. Ultimately, alliances will have to be forged, and certain technologies will win out. Though some markets will gain more than others, the longer-term benefits of integration will flow to all. F

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GAY IN CORPORATE AMERICA

What it's like, and how business attitudes are changing

Like more and more business people, Jack Sansolo, president of the Hill Holliday ad agency, is out of the closet.

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FORTUNE

"One way I can make the world a better place is to help people understand that there's nothing to be afraid of from lesbians and gays." PAGE 42

ABOVE: Gay employees speak at a Lotus diversity-awareness workshop. Photo by Max Aguilera-Hellweg.

COVER: Aguilera-Hellweg found Sansolo, president (U.S.) of Hill Holliday Connors Cosmopulos, in his L.A. office.

THE SOCIETY/COVER STORY

GAY IN CORPORATE AMERICA 42
In the company closet is a big, talented, and scared group of men and women. They want out—and are making the workplace the next frontier for gay rights. That has implications for your company. *by Thomas A. Stewart*

A CUTTING-EDGE ISSUE: BENEFITS 50
Did Lotus start a trend when it extended coverage to the "significant others" of gay employees this September?

THE ECONOMY

WHAT THE ECONOMY NEEDS NOW 59
Not fiscal stimulus; it runs up interest rates. A better idea: Lower investment levies, offset by higher consumption taxes. *by Richard L. Kirkland Jr.*

GETTING AMERICA TO SAVE MORE 67
The profligacy of the past has seriously damaged living standards. Strengthening pensions and reinvigorating IRAs would help. *by Louis S. Richman*

AIRLINES

DELTA AIMS FOR A HIGHER ALTITUDE 79
With Pan Am's global assets, the Atlanta carrier gains the reach to soar. *by Kenneth Labich*

MISERY IN THE AIR 88
After a dismal year, the world's largest airlines count their losses. *by Wilton Woods*

MANAGING

THE BATTLE OVER BENEFITS 91
Squeezed companies are looking for savings in health insurance and pension costs. Employees get panicky at the thought. *by Jeremy Main*

CORPORATE PERFORMANCE

CONAGRA: A GIANT THAT KEEPS INNOVATING 101
Its recipe for earnings growth. *by Ronald Henkoff*

DOE RUN: HOW TO CLEAN UP ON THE CHEAP 102
A lesson in management. *by Peter Nulty*

SEGA: WHEN DELAY COURTS DISASTER 104
In videogames, the fastest wins. *by Brian Dumaine*

"The youth generation philosophy of the baby-boomers is finished. They have become the concerned generation."

PAGE 12

"Thrift as a cultural norm is a superego thing—it imposes self-restraint. Credit cards are all libido."

PAGE 67

"Delta has assured itself of a place at the table, but you have to wonder if the price was too steep for what they got."

PAGE 79

"This is a total fraud on small business. We would have been better off just flushing the money down the toilet."

PAGE 91

"We made excellent American-style companies, and we performed better than they did."

PAGE 126

"Your average witch or pagan hesitates to talk openly about his or her religion."

PAGE 147

CORPORATE PERFORMANCE

COMPANIES TO WATCH 106
International Airline Support Group scores by breaking up airplanes. *by Shelley Neumeier*

Also: Amtech, Respironics, and Exar.

MONEY & MARKETS

HAVE YOU BEEN COLD-CALLED? 109
Behind those securities brokers who interrupt your dinner is some powerful marketing machinery that just won't quit. *by Carol J. Loomis*

TECHNOLOGY

TECHNOLOGY TO WATCH 117
A protein in tiny bacteria could help store data in tomorrow's computers. *by David Kirkpatrick*

SELLING

A CURE FOR WHAT AILS ADVERTISING? 119
Madison Avenue is pinning its hopes for a rebound on an old concept called integrated marketing. It will be a tough sell. *by Faye Rice*

INNOVATION

PRODUCTS TO WATCH 125
Calligraphy capability for your computer, Mazda's new smart car, and more. *by Alison L. Sprout*

JAPAN

50 FATEFUL YEARS FROM ENEMY TO FRIEND TO _____? 126
The men running Japan have vivid memories of war, and U.S. generosity thereafter. The new generation sees things differently. *by Emily Thornton*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12
Nightmare: Congress aids the economy, 1992's hot cars, happy days for mortgage bankers, new ways to keep out hackers, Yeltsin plays his oil card, a vision thing for health care, and more.

FORTUNE FORECAST 21
Business is stepping up its spending on equipment, especially computers. *by Joseph Spiers*

Economic Intelligence: Strength in some old Fed numbers, and America's economy is still No. 1.

PERSONAL INVESTING 27
Wall Street's pros pick stocks that will win in 1992. *by William E. Sheeline*

Also: Portfolio Talk with Will Danoff of Fidelity Contrafund.

LETTERS TO FORTUNE 37

FORTUNE PEOPLE 137
A billionaire takes his ball back, Jimmy Robinson's spectral visitor, and more. *by Andrew Erdman*

BOOKS & IDEAS 141
A new book describes the conscientious executive decisions it took to turn *The Bonfire of the Vanities* into a disaster. *by Richard Schickel*

Also: A biography of Edward Bennett Williams, the born Washingtonian. *by Andrew Ferguson*

KEEPING UP *by Daniel Seligman* 147

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EDITOR'S DESK

Stewart and Fefer: some light on an often hidden subject

WHY WOULD FORTUNE ever want to do a cover story about *that*? I suppose a few readers will ask the question. And I admit I was a bit skeptical when reporter Mark D. Fefer proposed that we examine what it's like for gays in corporate America. The answers soon became clear: because they're *there*—sometimes in large numbers. Because they have special concerns on the job. Because business must make the most of everyone's talent and prides itself in managing diversity in the workplace. And because homosexuals surely deserve as much opportunity as any other minority.

Emily Thornton in Tokyo

But would we be able to find enough gays to speak to us openly? Fefer was already a step ahead. He had called a dozen gay and lesbian organizations around the country. Almost all had members in business who professed a willingness to talk. With that, Fefer and writer Thomas A. Stewart set out for several weeks interviewing over 100 gay men and women about their lives in business.

Fefer and Stewart found professionals who were scared about the career consequences of admitting their homosexuality, yet equally frustrated with having to hide it. Says Fefer: "For some, it's a big step just taking *no* steps to deceive coworkers."

While most people they interviewed asked both men if they were gay—they are not—few made an issue of it. Says Stewart: "You have to remember that gay people live in a straight world, so they've developed a pretty good sense of whether you are out to get them. Once they figure out that you are being honest with them and are not interested in gossip, there's no problem."

Also in this issue, reporter Emily Thornton of our Tokyo bureau examines how U.S.-Japanese relations have changed over the past 50 years—and where they may go next. While pondering how we might mark the anniversary of Pearl Harbor, Thornton told international editor Don Holt that she was struck by the differences between the ways older and younger Japanese view the U.S. "With older managers there is a feeling of nostalgia about the greatness of the U.S.," says Thornton. "People in their 20s and 30s have no memories of World War II or American postwar benevolence. They don't want the U.S. to treat Japan like its little brother anymore." To plumb these changing attitudes and their meaning, turn to page 126.

Marshall Loeb

MANAGING EDITOR

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real goal, namely providing health care for all, including the 34 million Americans currently uninsured. **-R.T.**

A TOUGH HUNT FOR OFFICES ABROAD

■ U.S. corporations hoping to profit from economic unity in Europe and freer trade with Mexico must live with higher rents, lower vacancy rates, and fewer deals for space than those offered in overbuilt commercial districts stateside. (See table for the figures on prime districts around the world.)

AT&T, for example, needs to increase the number of employees in Mexico City from 120 to 155 and add about 20,000 square feet to the 43,000 it presently occupies there. The company is weighing the merits of building, leasing, or expanding its present offices. Robert Curtiss, an AT&T international real estate manager, says a lack of long-term financing from Mexican banks, a dearth of space in one of the world's most populous cities, and a shortage of reliable information make building in Mexico City a pain. Says he: "It's the most difficult market I've ever worked in."

Hewlett-Packard also wants to increase its head count in Mexico City from 500 to 700 and needs a home where they could all work under one roof instead of being dispersed as they are now. HP has decided to build in Santa Fe, a suburb. Rather than look for local loans, the computer manufacturer is paying for the construction itself. Bob Brackin, a real estate manager for the company, says HP hopes to recoup some of the cost by leasing out any space left over. Thus the company may benefit from the same high rents that encouraged it to build in the first place.

Europe generally is easier, but Paris has tough laws on tearing down old buildings. No surprise, Tokyo has the fewest vacancies, the highest prices, and lots of red tape. **-A.J.M.**

David Saperstein helps 85 million Americans find their way out of a jam.

SOMEONE UP THERE KNOWS A SHORT CUT

■ It's 6:30 A.M., and Kevin Zeppelin's view from the radio station 96 Rock-and-Roll Jet Patrol helicopter—mostly of Atlanta's tangled "Spaghetti Junction" interchange—is spectacular. Nobody can spit out a summary of the morning's congealing traffic faster than Kevin. Unless it's the more bucolic Moose aboard station KICKS Country 101's chopper.

Actually, they're the same guy—real name, Kevin DePhillips—riding the same Bell Jet Ranger. He and five colleagues with multiple personalities and accents give traffic updates for 17 other local radio stations. Their boss: Metro Traffic Control, a private Houston outfit that has similar casts of characters in 39 other U.S. cities. Riding a total of 23 helicopters and 54 airplanes, 198 of them deliver traffic reports via some 800 radio and TV stations to an estimated 85 million people. The company provides the reports free of charge to stations, but sells the commercials itself. Former Ford dealer David Saperstein, 51, who founded Metro in 1977, says revenues have risen annually by an average 48% since then.

Looking ahead, Saperstein is steering Metro into a variety of technology-driven solutions to growing traffic problems. The company already offers two-way interactive cellular phone service in Chicago, Los Angeles, and New York City to drivers searching for quicker routes. Metro also has a dozen people researching intelligent vehicle systems, where sensors in the roads would communicate traffic information to systems built into cars. And Metro is pursuing contracts with local governments to run so-called incident management systems—"accident at First and Main"—that police departments usually operate.

In November, Metro scored its first big hit in this arena when New York's Westchester County selected the company to operate its traffic communications center. Saperstein believes his systems will ultimately save business billions of dollars in productivity now lost to traffic jams. **-John Huey**

WHERE THE SPACE IS

	Office vacancy rate	Average price per square foot
Los Angeles	24.0%	$14
Chicago	21.1%	$28
Atlanta	18.0%	$20
New York	16.5%	$40
London	15.0%	$105
Paris	4.5%	$85
Brussels	3.0%	$29
Frankfurt	2.0%	$68
Hong Kong	2.0%	$115
Berlin	1.0%	$82
Mexico City	1.0%	$53
Tokyo	0.2%	$158

NOW HEAR THIS

■ **T. J. RODGERS,** 43, founder and CEO of Cypress Semiconductor, on his evolving relationship with company directors: **"I've become comfortable having a board that gets on my case often. When we screw up, we try to fix it."**

■ **LORD HANSON,** 69, founder and chairman of Hanson PLC, a British conglomerate, on accusations that he uses company money to prop up his personal standard of living: **"When I was 27 I was driving my own Rolls-Royce. Today it may be owned by Hanson, but the point is I don't need the company to keep me in the style in which I have lived for years."**

MISERY IN THE AIR

Following a year made dismal by war and recession, the world's largest airlines count their losses. ■ *by Wilton Woods*

LAST YEAR was the worst ever for the world's airline industry, which lost some $2.7 billion. But the record may not stand for long. Officials of the International Air Transport Association predict that 1991 could turn out even worse when the airlines total up the damages from the Gulf war and the U.S. recession, which have already caused the industry plenty of misery.

Nearly half the companies on this list posted losses, and some show a profit here only because their fiscal years ended before Saddam Hussein sent his troops into Kuwait. That invasion sent the price of jet fuel up and the number of passengers down—a scissor effect that cut off airline profits in midflight. Then Desert Storm hit the airlines with hurricane force as prospective passengers worried about terrorism and stayed home.

Even after the Gulf war ended, air carriers continued to suffer. The U.S. recession persuaded many Americans that flying was a luxury they could forgo; traffic declined within the U.S. and from the U.S. to Europe. Casualties included some of the most famous names aloft. Pan Am dived into bankruptcy and sold off pieces of itself—Berlin routes to Lufthansa, London routes to United, and most of the rest to Delta—leaving only a remnant flying out of a Miami hub to Latin America. Continental also filed under Chapter 11, blaming high fuel prices; it may merge with Northwest or reorganize. TWA sold its London routes to American and is preparing a prepackaged bankruptcy to cut its debt.

Like most crises, this one has made the strong stronger. In the U.S., American, United, and Delta have become the undisputed Big Three. France's government-owned flag carrier has added the country's two largest privately owned lines (Air Inter and UTA) to the Air France Group, creating a fortress hub in Paris. Spain's Iberia, also government owned, took advantage of the Latin American privatization wave to buy controlling stakes in Venezuela's Viasa and Aerolineas Argentinas, gaining a dominant position on the Caribbean coast and the southern cone of South America. British Airways and KLM are trying to put together a new combination of their own.

In the cold shadows of the giants, smaller carriers are huddling together. SAS, Swissair, and Austrian Airlines are coordinating flights into each other's hubs and plan to buy shares in one another to cement the alliance. USAir and Air Canada announced a relationship that could grow closer as the North American Free Trade Agreement unfolds. Northwest has scavenged assets of smaller lines, including Hawaiian, Eastern, and America West, while trying to take over the Trump shuttle or even Continental.

Only the Pacific Rim airlines remain profitable as a group. Because nations in that part of the world were little involved in the Gulf war, most passengers kept right on flying. The U.S. recession didn't affect them much. And citizens of the Pac Rim's many island and peninsular nations have few alternatives to air travel for getting from spot to spot. Australia's airlines nonetheless suffered from a bitter strike by pilots that began in 1989, disrupting service and scaring away passengers.

For airlines, as for many businesses, Eastern Europe is an important growth market. CSA Czechoslovakia, Malev Hungarian, and LOT Polish each report revenues of less than $300 million, but they are lining up to buy new planes from the West. Aeroflot reported that its international routes brought in revenues of more than $2 billion last year, most of that presumably hard currency. The domestic market could be even larger. If the ruble becomes convertible, as it may in a year or two, Aeroflot would then be eligible for this list—and could land near the top. F

Rank by revenues 1990	89	Country
1	1	AMR	U.S.
2	2	UAL	U.S.
3	10	Air France Group	France
4	6	Lufthansa	Germany
5	3	Japan	Japan
6	4	Delta	U.S.
7	5	British Airways	Britain
8	8	Northwest	U.S.
9	9	USAir Group	U.S.
10	7	Continental Holdings	U.S.
11	12	Scandinavian Airlines System	‡
12	11	All Nippon Airways	Japan
13	13	Trans World	U.S.
14	16	Alitalia	Italy
15	14	Hanjin Group	South Korea
16	24	Swire Pacific	Hong Kong
17	15	Pan Am	U.S.
18	17	Swissair	Switzerland
19	19	Iberia	Spain
20	18	Air Canada	Canada
21	20	KLM Royal Dutch	Netherlands
22	21	Qantas	Australia
23	22	Singapore	Singapore
24	23	PWA	Canada
25	25	Saudia	Saudi Arabia
26	26	Varig	Brazil
27	28	Thai Airways	Thailand
28	29	Japan Air System	Japan
29	31	China	China
30	32	Garuda	Indonesia
31	35	Sabena	Belgium
32	27	Ansett Transport	Australia
33	37	LTU	Germany
34	41	America West	U.S.
35	34	Finnair	Finland
36	39	Southwest	U.S.
37	36	Air New Zealand	New Zealand
38	42	Alaska Air Group	U.S.
39	47	Mexicana	Mexico
40	44	Aer Lingus	Ireland
41	45	Austrian	Austria
42	43	South African Airways	South Africa
43	46	Olympic Airways	Greece
44		TAP Air Portugal	Portugal
45	50	Malaysian	Malaysia
46	48	Air India	India
47	●	Aerolineas	Argentina
48	49	El Al	Israel
49	40	Australian	Australia
50	●	Pakistan International	Pakistan

● Newcomer ‡Half owned by the governments of Sweden, Denmark, and Norway

THE TOP 50 AIRLINE COMPANIES

1990 REVENUES		PROFITS		TRAFFIC		COMMENTS
$ millions	% change from 1989	$ millions	Rank	Passenger miles in billions	Rank	
$11,803.6	11.5%	(39.6)	34	77.1	1	American's parent; bought TWA's London routes to keep ahead of archrival United.
$11,160.1	12.6%	94.5	10	76.1	2	United's parent; bought Pan Am's rights to cross the Atlantic to London.
$10,944.7	76.0%	(131.7)	38	36.3	6	Acquired privately owned Air Inter and UTA to make Paris into a fortress hub.
$9,007.0	29.8%	6.9	27	25.8	12	Proudly resumed service from old home base in Berlin after German reunification.
$8,950.0	5.2%	122.9	7	32.5	10	Like competitors, restrained by Japan's crowded airports from adding destinations.
$8,582.2	6.1%	302.8	4	62.1	3	Bought a flock of Pan Am's planes, foreign landing rights, and New York shuttle.
$7,823.0	3.9%	397.8	2	38.5	5	Facing tough new competitors at London's Heathrow Airport, its home base.
$7,257.1	10.7%	(10.4)	28	51.5	4	Trying to grow big enough to survive by buying up bits of smaller, troubled rivals.
$6,562.8	4.9%	(454.4)	45	35.6	8	Hurting because it is strongest in parts of the U.S. where the economy is weakest.
$6,283.6	(7.2%)	(2,343.9)	47	39.2	7	Changed name from Texas Air after its sister airline Eastern went into bankruptcy.
$5,383.4	17.9%	N.A.	—	10.2	26	To compete in the mainstream, looking for allies with hubs in the heart of Europe.
$5,291.8	8.9%	105.7	9	3.6	46	Japan's largest domestic airline; has bold plans to challenge the megacarriers.
$4,646.3	3.1%	(237.6)	44	34.7	9	Shrunken line owned by Carl Icahn, who could save it or sell what's left.
$4,645.8	24.4%	(81.6)	37	14.1	18	Government owned in a protected market; faces EC deregulation after 1992.
$4,537.6	6.9%	(12.0)	30	12.0	22	Parent of Korean Air, conglomerate owned by founder Choong Hoon Cho.
$4,001.9	12.8%	314.5	3	15.2	17	Owns Cathay Pacific, real estate in Hong Kong, Coke bottlers in China, and more.
$3,931.9	2.0%	(662.9)	46	30.7	11	Trying to start over where it all began, with flights from Florida to Latin America.
$3,760.4	18.5%	(15.8)	32	9.9	28	Partners with SAS in Europe, Delta in the U.S., and Singapore in Asia.
$3,684.1	22.2%	(136.8)	39	13.7	20	Hoping to be Europe's bridge to Latin America; bought Aerolineas Argentinas.
$3,378.7	8.8%	(63.5)	35	16.6	16	Wary of talks to add air travel to the Free Trade Agreement; allied with USAir.
$3,114.5	6.0%	163.7	5	16.8	14	Squeezed by big neighbors, needs a big ally; has a stake in Northwest.
$2,772.2	4.0%	9.3	26	16.8	15	For sale by owner (government of Australia); foreign bidders expressly invited.
$2,624.2	14.3%	618.6	1	19.1	13	Consistently the world's most profitable airline; keeps spending on new planes.
$2,355.1	4.5%	12.5	24	13.9	19	Owns Canadian International; U.S. carriers would be tough rivals if allowed in.
$2,050.7	7.4%	(163.7)	41	10.4	25	Hit hard by war, as were Kuwait Airways, Egyptair, and Royal Jordanian.
$1,926.9	3.5%	(145.1)	40	10.4	24	Employee owned; faces privatized competitors in Brazil and South America.
$1,926.2	14.4%	162.6	6	12.2	21	Plans to sell shares on Bangkok exchange; boasts 27 consecutive years of profits.
$1,704.4	20.2%	13.8	22	5.9	37	No. 3 in Japan—not such a bad place to be in a sheltered and yen-rich market.
$1,521.2	22.0%	119.9	8	7.6	31	Riding Taiwan's galloping economy and adding capacity to meet new competition.
$1,515.0*	21.6%*	75.0*	12	9.2	29	Outgrowing its booming home country, may bid for stakes in Qantas or Australian.
$1,467.7	28.0%	(207.8)	43	4.2	43	Too small to go it alone; Brussels could be second hub for BA, KLM, or Air France.
$1,435.9	(17.7%)	21.1	18	2.7	47	Half owned by Rupert Murdoch's News Corp.; trouble hit when pilots struck.
$1,406.6	28.5%	N.A.	—	8.3	30	Privately owned operator of package tours, mostly to Spain; some scheduled service.
$1,326.3	32.1%	(74.7)	36	11.1	23	Fast-growing success story until hit by war, recession, and high fuel prices.
$1,265.3	9.0%	18.5	19	6.2	36	Home market in recession; adding flights to its newly independent Baltic neighbors.
$1,194.4	15.8%	47.1	14	10.0	27	Niche player with a no-frills style; lots of short nonstops, little hubbing.
$1,113.5	0.4%	59.2	13	6.3	35	Privatized in the restructuring of a welfare state economy now mired in recession.
$1,054.3	13.5%	17.2	20	7.3	32	An anomaly emphasizing more seat space and better meals in West Coast market.
$1,043.1	36.5%	(35.5)	33	7.1	33	Newly private; bought planes and improved service to grow with the economy.
$1,035.7	15.1%	45.8	15	2.5	49	Feisty competitor; gets most of its profits from diverse associated businesses.
$1,116.5	31.3%	11.6	25	1.8	50	Route system is already aimed at the growing markets of Eastern Europe.
$1,010.9	10.8%	23.7	17	5.7	40	With apartheid and boycotts crumbling, resumed service to New York.
$940.0*	19.7%	(175.0)*	42	4.8	42	Being restructured by its government owner, which is seeking a buyer.
$935.2	23.9%	(15.4)	31	4.2	45	Lots of routes from Africa and Brazil to the fastest-growing economy in the EC.
$853.9	19.8%	83.1	11	6.5	34	Good service, new planes, a government owner that keeps competition restrained.
$822.0	10.3%	42.6	16	5.8	39	May be the world's most improved line, say passengers, despite government owner.
$787.0	N.A.	N.A.	—	5.3	41	Controlled by Iberia, which faces a big job upgrading fleet and service.
$785.3	10.0%	14.1	121	4.6	44	Continued flying to Israel during the Gulf war when U.S. and European lines didn't.
$784.7	(22.6%)	(10.6)	29	2.7	48	Endured pilots' strike and then deregulation; now on the block for privatization.
$767.2	5.2%	13.7	23	5.8	38	For sale, like much else owned by the government of Pakistan.

*Estimate N.A. Not available
All figures converted to dollars using the average official exchange rate during each company's fiscal year
Figures are for fiscal year ended March 31, 1990. Fiscal year ended June 30, 1990. Fiscal year ended September 30, 1990.

COURTESY AMR

THE BATTLE OVER BENEFITS

Squeezed in a tight economy, companies are looking for savings where once they didn't dare: in health insurance and pension costs. Employees get panicky at the thought. ■ *by Jeremy Main*

THE BATTLE over benefits has grabbed a starring role in the corporate drama of the 1990s. Companies gasping for profits in a sluggish economy are no longer willing to bear giant, fast-growing expenses. Employees fearful of cutbacks or layoffs are clutching at every benefit that looks vulnerable. The result is growing tension between workers and employers on an issue that is already hot. Consider: More than half the workers who struck in the U.S. last year walked out primarily over their medical coverage. Employers typically wanted to shift some costs of health insurance to employees, and the unions naturally resisted.

There's no going back to the old days, when employers considered benefit expenses sacrosanct or intractable. Companies have fundamentally changed their attitude. "During the last four to five years we've started to look at benefits as a business expense rather than something sacred, off to one side," says Patricia Nazemetz, director of benefits at Xerox. "We see large corporations, including Xerox, working toward managing their benefit spending just like they manage other business areas, such as pay, while still preserving their benefits. What they are trying to do is keep benefit spending at the consumer price index level."

Good luck. The CPI has about matched wages and salaries over the past decade, while benefit costs have far outpaced them (see chart). Some benefits, those required by law like Social Security, can't be touched. Others, such as vacations and life insurance, have remained mainly out of bounds despite their considerable expense because at least the costs are fairly stable. A number of benefits are even expanding. Under social and political pressure, companies are allowing leaves to care for relatives and reimbursing child and elder care expenses. Both houses of Congress have approved a bill creating the right to 12 weeks of unpaid family leave. So cost cutting must focus on the two remaining big categories, health insurance and pensions. Of these, health is the largest and most fearsomely growing.

REPORTER ASSOCIATE *Rosalind Klein Berlin*

To save money, Quad/Graphics near Milwaukee offers free therapy and other services at its own clinic.

That's partly because it is scarcely managed. Traditional health insurance, the indemnity or fee-for-service plan that lets the doctor or hospital virtually fill in a blank check, costs the average large company $3,200 a year per employee and went up 21% last year; for smaller companies 25%. Four parties come together in this expensive transaction: the employee who receives care, the employer who pays for it, the insurance company that administers it, and the doctors and hospitals that deliver it. None is responsible for managing the whole system.

Lack of management produces atrocious discrepancies in costs and quality. Carson Beadle, managing director of William M. Mercer, a benefits consulting firm, reports these striking results of a 1990 survey of eight hospitals in the West that performed a specific type of surgery, a coronary artery bypass graft: The cheapest hospital charged an average of $17,000 and had a death rate of 8.3%; the most expensive charged $53,000 on average but had a 2% mortality rate.

These discrepancies, widespread in medi-

cine, shout out for good management to find the best care at the best prices. The most promising approach companies have found is managed care—negotiated fees and reviews of the performance of doctors and hospitals. Managed care can work through health maintenance organizations (HMOs) or networks of preferred health care providers assembled by insurance companies or by corporations themselves. The common element is that the company is no longer passive in the health care of its employees. It monitors results and costs, negotiates better discounts and services, even watches over specific cases.

Allied-Signal, with one of the best-known managed-care programs, has held average annual increases in health costs below 10% since 1989. PepsiCo, also using managed care, says it has kept annual growth of medical costs below 8% for the past five years.

As PepsiCo got deeper into managed care, it made a discovery similar to what others are finding—that 45% of its medical costs stemmed from 2% of cases. Premature babies, heart attacks, cancer, and mental problems, for example, are extremely expensive. So now when a major problem is diagnosed, PepsiCo appoints a case manager from companies that specialize in providing the service to monitor and try to control the case. All pregnant women can volunteer to be screened in the first trimester, and those likely to have a high-risk pregnancy get special attention.

OTHER BIG COMPANIES are also setting up networks of health care providers with which they have negotiated advantageous rates. Corporations can't force employees to use the networks, but they usually try to make it worth their while. For example, network users at AT&T pay a $150 deductible, and insurance covers 100% of hospital bills and 95% of surgical fees. The worker who goes outside a network pays a $200 deductible and gets only 80% of bills reimbursed.

To curb particularly fast-rising costs such as those for treatment for drug abuse and mental problems, many companies carve them out of their regular insurance plans and put them in the hands of specialist companies like Value Health of Avon, Connecticut. Mental health insurance costs are rising as much as 50% a year, says Robert Patricelli, president of Value Health. One reason: Drug abusers are more likely to seek help now because many employers insist on drug tests, and treatment falls under mental health insurance.

Brown & Root, the big Houston-based construction company, carved mental health out of its medical plan last year and turned it over to Cambridge International, which operates mental clinics and hospitals in the Houston area. The agreement is exclusive: Brown & Root employees must go to a Cambridge clinic or they get no coverage at all. Yet the deductibles and co-payments they make are less than under the company's old plan.

John Schaeffer, who runs Brown & Root's employee assistance program, says the company would have spent $11.3 million last year on mental health insurance. Instead it paid $6.5 million. The average hospital stay dropped from 34 days in 1989 to 22 in 1990. Brown & Root plans to subcontract more pieces of its health insurance.

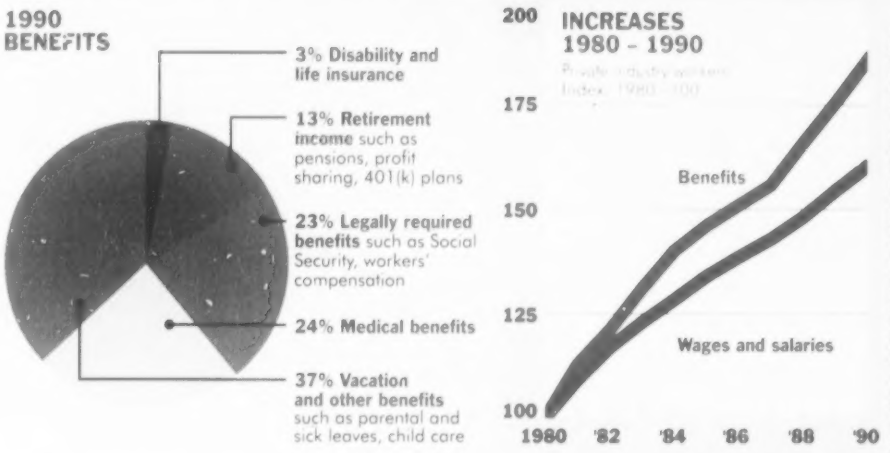
Other companies have devised different imaginative approaches to rising health costs. Baker Hughes, an oilfield service company in Houston, discovered that about half its employees' health problems were caused by bad habits and last year adopted a "wellness" program. Tobacco smokers and chewers pay a $10-a-month surcharge for health insurance, while employees who pass a physical get an extra $100 toward medical bills. After several years of 20% increases, the company has negotiated a 1992 health insurance contract with Provident Life & Accident Insurance that includes no increase at all.

Quad/Graphics, a printing company outside Milwaukee, decided to bypass the middlemen of medicine and built its own clinic at headquarters, staffed by nine doctors. The clinic offers a family practice, internal medicine, pediatrics, obstetrics, gynecology, minor surgery, lab work, rehabilitation from injuries, and physical examinations. It's free to employees and their families, who may choose instead one of the networks run by Quad/Graphics or the old-style indemnity coverage, both of which will cost them money.

Health benefits for retirees pose a nasty dilemma for corporations. Who wants to

Who wants to cut off help to the elderly? But the medical bills of retirees are getting too costly to ignore.

Where benefit dollars go . . . and how they outpace pay



Growing far faster than pay, benefits equaled 38% of wages and salaries in 1990. While vacations and other forms of paid time off take the biggest bite of the benefits pie, medical costs are increasing much more quickly.

cut off help to the elderly? But the bills of retirees are getting too costly to ignore. A new rule by the Financial Accounting Standards Board, the high priesthood of bookkeepers, will have a devastating impact on profit statements starting in 1993. Instead of continuing to pay as they go, employers will have to account for future health insurance liabilities in the present.

While not affecting cash flow, the new procedure will wipe out the stated profits of many companies. Hewitt Associates, a benefits consulting company, estimates the switch will raise the stated cost of retiree medical benefits from 1.1% of total payroll to 6.25%. In a recent filing with the Securities and Exchange Commission, General Motors estimated it would have to charge off $16 billion to $24 billion against net income, either in a lump sum in 1993 or spread out over 20 years. New liabilities for retiree health care will accrue at a rate of $400 million to $2.6 billion annually. To put that in perspective, consider that in its best year ever GM earned $4.9 billion.

Employees don't necessarily suffer under managed care: it cuts waste and imposes discipline on an otherwise out-of-control process. But retiree health costs are so frightening that some companies are forthrightly cutting coverage. Ralston Purina and Boise Cascade are phasing out health insurance subsidies for future retirees and will eventually eliminate them. Instead the companies have created special employee stock ownership plans, which workers can use to pay medical costs later in life.

Many companies are also telling *current* employees that there's a limit to the contributions the companies will make once they retire. Chrysler, which will have to write off $4 billion to $6 billion in accrued obligations under the new FASB rule, will adjust its coverage to the age and service of the retiree. Only 30-year veterans who are at least 60 will get full retirement health benefits. A 60-year-old with ten years' service will get half benefits. Explains Allen Steinberg of Hewitt Associates: "Employers are asking why they should give a blank check for medical care to someone who worked for them for only ten years."

Another way out of the medical costs quagmire is cafeteria plans. They're not a new idea—PepsiCo's pioneering plan is 11 years old—but pressure to contain costs is causing more companies to adopt them. AT&T did last July, and Xerox's plan comes alive in January. A survey of 1,000 large companies last year by Foster Higgins, a benefits consulting company, reported that 27% had such flexible plans and another 11% intended to introduce them this year.

Complains a union aide: "Cafeteria plans limit corporate liability but leave the employee holding the bag."

How do they work? AT&T managers get a $260 monthly allowance that covers the most complete medical and dental plans. They may not opt out of medical insurance but may choose a cheaper plan—one with a $2,500-a-year deductible, for example. That choice earns credits that can, for instance, buy up to five days' more vacation. The menu also offers choices in life insurance, long-term nursing-home care, and home care.

Michael Gulotta, president of Actuarial Sciences Associates, an AT&T subsidiary, explains how cafeteria plans contain costs: "With a flexible plan there is no automatic escalation of costs. The corporation has control of the value of credits. If costs go up 20%, maybe the corporation will increase the value of credits only 10%." Because they may represent a true loss of value, flexible plans must be handled with care. Says PepsiCo benefits vice president David Scherb: "We're going to have our employees for a long time, and we don't want to destroy their sense of fairness."

Labor doesn't like cafeteria plans, seeing them as an effort to limit benefits. "They really boil down to cost shifting from employers to individuals," says Karen Ignagni, director of benefits for the AFL-CIO. "They limit corporate liability but leave the employee holding the bag." Cafeteria plans are generally confined to management because unions won't go along with them.

ALL COMPANIES bear the burdens of health insurance, but the other huge source of discretionary benefit costs—pensions—is the special affliction of the small employer. The trouble is not the cost of contributing to a pension plan; the pension funds of many companies did so well in the markets of the 1980s that they are overfunded and don't need more money. The problem is the cost of administering the plans.

Congress meddles forever with the pension laws. Amendments last year brought forth a 600-page wad of almost incomprehensible new rules from the Internal Reve-

Flummoxed by new regulations, the Wolfs wish they had never tried to give their employees a pension.

Baker Hughes employees in Houston earn a premium for good health if they pass a physical like this.

nue Service. Spread over thousands of employees, the costs of keeping up with the rules is manageable. But a little company with only 15 employees could spend fully one-third of what it sets aside for pensions just complying with regulations, particularly rules intended to prevent discrimination against lower-paid workers.

Donald and Anita Wolf, who have run a computer retail and consulting company in Los Gatos, California, for the past ten years, don't know what they are going to do about their pension plan for themselves and their 65 employees. The plan administrator recently notified them that the plan is "top heavy," meaning it discriminates against lower-paid employees by the inscrutable standards of Washington.

The Wolfs have no idea what the regulations mean or what to do about them. They don't think many pension plan administrators, who may charge small companies $5,000 a year to run their plans, understand either. But apparently they will have to pay some undetermined sums to employees who should have received more. "This is a total fraud on small business," says Donald Wolf. "We would have been better off just flushing the money down the toilet. The worst thing is that we have created a real morale problem among our employees." They're uncertain about what pension plan they'll have—if any.

Most troublesome of the pension schemes are defined-benefit plans, the traditional pensions that promise a fixed income on retirement. Because of the cost of running these plans, "we are seeing mass terminations," says Charles Offutt, a Baltimore consultant to small and medium-size companies. Ever more companies—including the Wolfs'—are turning instead to defined-contribution plans, which promise no fixed income at the end. Instead, through a device such as a profit-sharing account or a 401(k) plan, they build up tax-deferred assets that the employee collects when he leaves. He can roll the money over into a tax-deferred individual retirement account, buy an annuity—or blow the money on a boat.

The defined-contribution plans are cheaper and simpler to operate than the defined-benefit version, and shift some responsibility to the employee. With a 401(k) plan, the employee decides how much to contribute to his pension. The company then matches his contribution, often 50 cents on the dollar. The employer no longer carries the whole burden for building a pension or for delivering a fixed amount at the end.

Many big corporations offer employees both types of pension. Which version helps the employee most depends largely on his age. The defined-benefit plan doesn't pay until the worker reaches his company's retirement age, and if he leaves the company young he will probably be better off with a defined-contribution plan, which he can take with him. But if he stays until 65, the defined-benefit plan will probably pay more.

SINCE IT TAKES a long time to build a good pension with a defined-benefit plan, and long-term employment with one company is becoming rarer, employers have come up with a new model of the traditional plan, which they call a "cash balance" plan. Not only does it build to that eventual pension, but it also creates a cash value the employee can see growing every year. If he leaves before retirement age, he can take the cash value with him and spend it or roll it over into an IRA. Chase Manhattan Bank and IBM have added cash-balance pensions.

Defined-contribution and cash-balance pensions—like managed care and cafeteria medical plans—are part of the basic trend in benefits: to involve employees. When workers have to make choices about what they get, with their own money on the line, they become more aware of the value of these parts of their compensation. They will also better understand squeezes in the future, or so corporate thinking goes.

Except for the genuine hardship among small-company employees, who have lost pensions and medical coverage, the battle over benefits has not yet resulted in deep cuts. The packages offered by most big employers are still generous. It's even quite possible that efforts to contain medical costs will improve health care while making it more affordable. If a well-managed health plan reduces unnecessary surgery, then the company saves money and the employee avoids needless risk and suffering. But unless a lot more such win-win solutions are out there waiting to be found, rocketing benefit costs could become the employee-employer issue of the decade.

Because of the cost of running defined-benefit pension plans, "we are seeing mass terminations."

50 FATEFUL YEARS
FROM ENEMY TO FRIEND TO _____?

The men running Japan have vivid memories of war, and American generosity thereafter. But a new generation is declaring its independence from the past—and the U.S. ■ *by Emily Thornton*

When the attack came, Norishige Hasegawa of Sumitomo thought it was the end of Japan.

THE JAPANESE attack on Pearl Harbor was supposed to end a relationship, not start one. But start one it did, a remarkable 50-year journey in which mortal enemies turned into warm friends, then into fierce, sometimes angry, economic competitors. What comes now? No one can say for sure, but the U.S.-Japan alliance will surely be transformed in the next few years as the generations change.

Japan will continue to be run for a while by men who remember not only Pearl Harbor but also the disastrous war that followed. They are still deeply embarrassed by the humiliation of defeat. They refer to themselves as *senzenha*, or the prewar generation, and often discuss contemporary events in terms of the war.

Most important, they remember the magnanimity of the victorious Americans. Many have happy memories of student days in a U.S. that seemed a wonderland of a country, of leaving their cars unlocked all day on a college campus, of staring up at New York's skyscrapers until their necks hurt. They remain grateful to the U.S. and still admire Americans while beating their socks off in world markets.

But gradually the generation born since 1945, now two-thirds of the population, will take over. These men—and some women—see the U.S. more as a whining competitor than any kind of benefactor. They wonder why Japan, a country that lends

REPORTER ASSOCIATE *Thomas J. Murin*

PHOTOGRAPHS BY PETER SIBBALD

money to cover America's deficits, is still playing the role of the grateful son. They are more dedicated to themselves than to either their country or their company.

By listening closely to both groups, you can get some idea of how Japan, and its relationship to the U.S., will evolve. The elders go first:

WHEN NORISHIGE Hasegawa, 84, joined Sumitomo in 1936, one of his first assignments was to visit Europe and the U.S. to learn the secrets of the West. He saw fascism in Germany and Italy, and then the overwhelming freedom of France, Britain, and America. He came home an advocate for liberalism in a totalitarian country preparing to wage war. He will never forget the moment he heard that Japan had bombed Pearl Harbor: "I was at home. I thought, 'Finally the navy has gone and done it. It is the end of Japan. I have lost everything. The future of Japan is gone.' "

After the war, Hasegawa, who became chairman of Sumitomo Chemical and is now retired, vowed to devote the rest of his life to improving ties with the U.S. He belongs to eight associations dedicated to that task and makes a point of going to America four times a year. He spends more than half his time trying to strengthen the relationship, mostly nowadays by explaining Japan to Americans. But he also faults his countrymen, especially the younger ones, for the growing friction between the two countries.

Unlike Hasegawa, Hachiro Hosokawa, 70, a director of Select Food, a food processor and distributor in Tokyo, knew little about the U.S. when he was drafted into the Imperial Navy at age 22. Says he: "The only things we learned from our elders were that Americans are lazy. They play around. And that makes them a weak country. Since there was no TV, whatever our fathers and grandfathers told us we believed."

Hosokawa was also told—by government propagandists—that if he did not make whatever sacrifice was necessary, Japan and its people would be destroyed. In 1944 he left the agricultural college he attended near Nagoya to become a pilot in a kamikaze squad. Since his job was to escort suicide pilots to their targets, he survived. But he was the only one who did of the original 21 officers. Every March 21—the date of the unit's first mission—he prays for the souls of his fallen comrades.

Software producer Nishi: "If I had been alive 50 years ago, I would have voted against that action."

Looking back, Hosokawa sees how futile the effort was. Says he: "The Japanese strategy for Pearl Harbor and the war was that of a kendo match. In kendo, once you tap your opponent's mask, you win. War is not like that. It's more like boxing. You win only when your opponent is knocked out." Then he adds, "No matter whether you look at Pearl Harbor from feudal samurai military ethics or the history of world wars, it was a sneak attack and an unjust way to start a war."

Though he came to admire the U.S. after 1945, he grew disillusioned during the Vietnam war. On a trip to Washington in 1965, Hosokawa went to Arlington Cemetery to see President John F. Kennedy's grave. While he was there, an honor guard trooped by with the flag-draped coffin of a

1941 1991 A CHANGING RELATIONSHIP

July 1941
Washington freezes all Japanese assets in the U.S.

August 1941
The U.S. puts an embargo on oil exports to Japan

December 1941
Japan attacks Pearl Harbor

August 1945
Japan surrenders after U.S. drops nuclear bombs on Hiroshima and Nagasaki

August 1945
American occupation under General MacArthur begins

May 1947
Japan's new constitution, heavily influenced by the U.S., takes effect.

July 1948
Japan accepts $2 billion in U.S. aid

April 1949
One dollar is fixed at 360 yen

July 1949
Unicef ships milk to Japan

April 1952
U.S. occupation of Japan ends

July 1952
Japan joins the International Monetary Fund

March 1954
Nomura Securities reopens its New York office, closed since 1937

UPI, BETTMAN, STANLEY TRUITMAN, ACME, USAAF

Jiro Ushio: "We made excellent American-style companies, and we performed better than they did."

Vietnam casualty. "The scene was the very picture of the Navy funeral services that were an everyday part of life in Japan during the last years of the fighting," he remembers. "The only difference was the flag. I was shocked when I thought about how the country that had beaten Japan was waging its own war, just as Japan had done."

DISILLUSIONMENT, though of a different kind, has also touched Masaharu Matsushita, 79, chairman of Matsushita Electric and son of the founder. Says he: "The one thing I can't understand today is why American manufacturing has become so weak." He was one of many Japanese industrialists who rushed to the U.S. after the war to see the wonders of the country that had defeated Japan. He remembers being spellbound in 1952 when he toured a Chevrolet plant in New York State. "They even assembled different types of engines on the same conveyor belt," he says. "I was so surprised." Earlier, back in Japan, Matsushita had attended a management training course sponsored by the Occupation. "When they asked me to write down my company's objective," he says, "I thought, 'This must be why Americans won the war.'"

For Reinosuke Hara, 66, president of Seiko Instruments, American aid after the war came in the form of scholarships from various U.S. universities. He was studying chemistry at Tokyo University when the war broke out, and was drafted to help develop rocket fuel. Nothing came of the project, and when the war ended he began sending applications to American schools. From 1952 to 1956 he went first to the University of Washington, then to Harvard, and finally to Louisiana State, working toward a doctorate in inorganic chemistry. Says he: "The Americans gave a lot of financial support to Japanese students, and this we should never forget."

JIRO USHIO, 60, founder and chairman of Ushio Inc., a fast-growing maker of halogen lamps for industrial and commercial use, agrees. He attributes all of his success to what he learned in America. Says he: "My generation tends to think a lot like Americans. We made excellent American-style companies, and we performed better than they did." He went to Berkeley in the mid-Fifties, a time he calls the "golden age" of the U.S. "Everyone was kind to foreigners," he says. "America was wonderful."

Nobuhiko Kawamoto, 55, president of Honda Motor, was in fourth grade when he saw his first American—a soldier with the Occupation forces. He didn't make it to the U.S. until the 1970s, when Honda introduced the Civic. Says he: "Until I first went there, I wondered why American people were so well liked by all nations. Why do the American people have the ability to be so popular? I had been taught that it was because of their generosity. When I went to the States, I decided a frontier spirit and generosity are Americans' particular features, the real reasons the U.S. has been No. 1 in the world." Lately, though, Kawamoto says he has had trouble finding the same kind of spirit or values in America. "Everything

1941 1991

August 1955
In the first incidence of U.S.-Japan trade friction, American textile makers complain about cheap Japanese blouses

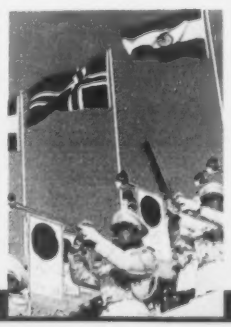
December 1956
Japan is admitted to the United Nations

September 1957
Japan exports first car to the U.S.: Toyota's Toyopet Crown arrives in Los Angeles—and bombs

January 1960
IBM makes its first computer in Japan

June 1960
President Eisenhower's visit to Japan is canceled after thousands demonstrate against a revised U.S.-Japan security treaty

October 1964
The Olympic Games come to Tokyo



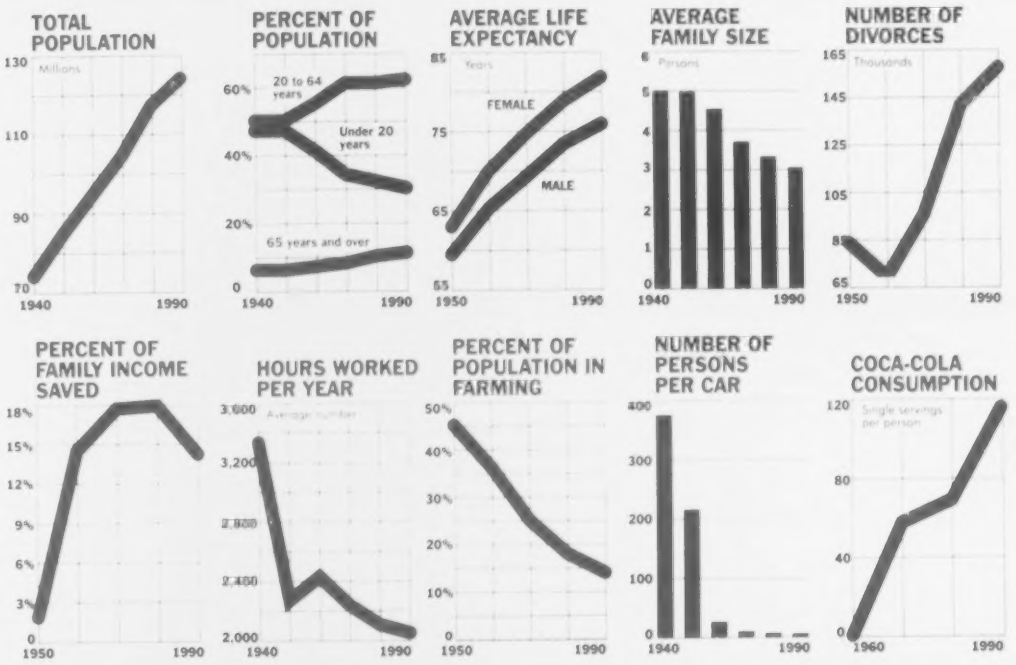
December 1964
Japan runs a trade surplus with the U.S. of $400 million, its first

January 1968
U.S. TV makers charge that Japanese companies are selling color sets below cost

BILL EPPRIDGE - TIME - AP - T. TSUKUMA - SPORTS ILLUSTRATED - JOHN LAUNOIS - BLACK STAR

HOW JAPAN IS CHANGING

Since 1940, family size has dropped and life expectancy has soared. Almost everyone has a car now. The divorce rate has climbed steadily since 1960.



has become so complicated," he says.

Such pessimism comes easily to the younger generation. When Makoto Ueda, 23, joined Toshiba last spring after graduating from Keio University, he had already seen much of the world—and been disenchanted. For the first seven years of his life he lived in Germany, where his father was an executive at a subsidiary of a Japanese chemical company. Ueda's image of America was of a proud country advanced in almost every field. Then his father was transferred to New York City. "I realized that the U.S. is not all-powerful," he says. "The country has domestic problems like its high crime rate. There is a great discrepancy between the rich and poor. Usually when Japanese think of America, they think of the rich people there. But actually, when you consider the whole population, a large proportion are not well-off Caucasians."

A 35-year-old who asks not to be named has a similar view. The Japanese financial institution he works for offered him a job in New York, but he turned it down. Says he: "When I was first exposed to the U.S. I was impressed. But over the last few years that's changed. I'm not interested in living in New York. It's the city where the most affluent people in the world coexist with the Third World, and both groups ignore each other. The rich get richer. The poor get poorer. It's sick."

Ueda and his peers know that the U.S. was generous to Japan after the war. But they know it as history, with little relevance to today. Says Ueda: "Japan and the U.S. are both powerful countries. The older generation had many lessons to learn from Western countries in order to strengthen Japan's economy, so they natu-

1941
1991

January 1969
Japan agrees to reduce steel exports to the U.S.

June 1973
The U.S. restricts soybean exports to Japan

October 1973
Arab oil embargo

December 1973
U.S. firms first listed on the Tokyo Stock Exchange

June 1974
Matsushita Electric begins making color TVs in America

November 1974
Gerald Ford becomes first incumbent U.S. President to visit Japan

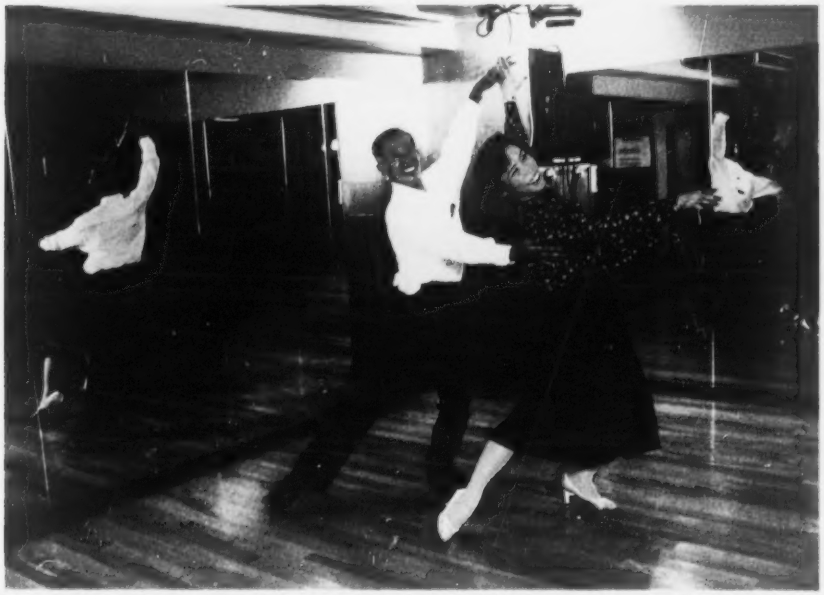
July 1977
First Matsushita VCR arrives in the U.S.

September 1977
Two American steel companies file suit against Japan for dumping steel

July 1979
First Sony Walkman sold in the U.S.

May 1981
Japan accepts voluntary restraints on auto exports to the U.S.

NO CREDIT, SANKEI SHIMBUN - TIME, DIRCK HALSTEAD - TIME, PETER BITTNER, SONY



Seiko Instruments President Hara brought back ballroom dancing from Louisiana State University.

rally preferred to listen to what the U.S. said rather than to express their own opinions. In order for the U.S.-Japan partnership to work under changed circumstances, though, we must say more what we think." Echoing the recent best-seller by Sony Chairman Akio Morita and Shintaro Ishihara—both members of the older generation—Ueda adds, "If the U.S. sincerely wants to be a partner, it must understand this: My generation will not be afraid to say no."

The cosmopolitan outlook of Ueda and his contemporaries is hardly unique. The number of Japanese long-term residents in the U.S. has jumped from 194,000 in 1980 to 374,000 in 1990. Almost 37,000 Japanese students were enrolled in U.S. colleges and universities during the 1990–91 academic year, up 22.7% from the previous school year. In addition, all Japanese are traveling more overseas.

When it came to the Gulf war, international familiarity apparently bred contempt. A poll conducted last March by NHK, Japan's public television network, showed that almost half the 20- to 39-year-olds were opposed to Japan's $13 billion contribution to the war, compared with about 25% for those over 60.

Younger Japanese don't want to work as slavishly as their elders did. For the oldest cohort of the postwar generation, this desire comes out as frustration. Koichi Hori, 46, head of the Boston Consulting Group in Japan, thinks a lot of his colleagues have no firm idea of what they hope to accomplish. Says he: "The men of the older generation have a firm belief; they have a unique philosophy. What philosophy do the baby-boomers have? We don't have one."

The 20- to 39-year-olds seem clearer about what they want. Listen to Ueda: "My father and I both work for the good of our companies, but we have different approaches." He says his father put the chemical company's needs and desires ahead of his own and those of his family. "But," says Ueda, "I think I will help my company improve by improving my own abilities. So I'm approaching my career at Toshiba with my own personal goals in mind."

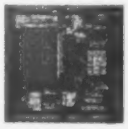
OR CONSIDER the young man who turned down the New York financial job. He is planning to resign this month after just over a decade to become an independent consultant. Says he: "I've been planning this for four years. There are more exciting things for me to do outside of a large organization like this." He wasn't unhappy. He had been treated well.

Initially, he had followed his father into a career in finance. "But there was one difference," he says. "I was working for my own personal fulfillment." His father was shocked when told of his plans. "So I took my parents on a weekend trip to a hot bath to talk it over," he says. "I think

1941
1991

November 1982
Honda begins assembling cars in Marysville, Ohio

September 1984
The U.S. places limits on steel imports from Japan



July 1986
First agreement signed to help U.S. firms penetrate Japan's semiconductor market

September 1986
American rice producers file suit demanding that Japan open its market

September 1987
The U.S. trade deficit with Japan reaches a high of $57 billion

January 1988
Sony purchases CBS Records

June 1988
Japan agrees to liberalize its beef and orange markets

November 1988
The yen hits 121 to the dollar, its highest point

December 1988
The Japanese investment in U.S. real estate totals more than $16 billion for the year

ANDREW SACKS · BLACK STAR · ADVANCE MICRO DEVICES · TED THAI · TIME · JEANNE STRONGIN

GENERATION GAPS

Responses to the question "What does it take to get ahead?"

CITY/ Age group	EFFORT	GOOD LUCK	GOOD CONNEC-TIONS	BEING BORN INTO A WEALTHY FAMILY	HEREDITY/ ANCESTORS
TOKYO					
36 to 45	72.0%	60.3%	28.3%	9.1%	4.3%
26 to 35	61.7%	66.0%	35.1%	11.1%	6.3%
NEW YORK					
36 to 45	72.5%	31.9%	30.1%	8.8%	3.8%
26 to 35	75.7%	26.8%	30.4%	7.3%	2.0%
LOS ANGELES					
36 to 45	76.3%	24.1%	23.4%	5.0%	2.1%
26 to 35	74.7%	28.4%	23.9%	5.5%	2.2%

Adds to more than 100% because of multiple responses

Japanese born since 1945 are different from their elders. This poll by the Dentsu Institute for Human Studies in Tokyo shows a split within the age group. The youngest are more cynical.

my father's coming around."

Japan's big companies are having to make major adjustments for this new generation of workers interested in two-day weekends and diversions other than golf and late-night drinking. For the first time many employers are asking, not telling, new recruits about their corporate philosophies. At NEC, President Tadahiro Sekimoto, 65, has put together a task force of 100 young employees to draft by next July a corporate vision for the 21st century. Fujitsu, among other companies, is trying to make it easier for younger employees to get their ideas heard. Says President Tadashi Sekizawa, 60: "In my day, only the person who had a lot of energy ever got his suggestions heard by upper management. Now, we can easily access anyone's proposal through electronic mail."

The young Japanese who do make it to the top will be more open-minded, says Toshiro Shimoyama, 67, president of Olympus Optical. "My generation has a built-in wall because we have an old, traditional philosophy upon which we depend. The next generation will not have this because after the war our education was changed drastically by the American Occupation. They also have more experience abroad. I'm not worried. We don't need so many people in top management. The president is one person. And those talented few members of the younger generation are far superior to the older generation."

The young are eager for their country to be a world political leader as well as an economic power. Says Iyoshi Kawashima, 39, head of the Junior Chamber of Commerce in Japan: "We want to be like the Americans in the Sixties. We respected Americans then. Why? They were very friendly to the world. They were not selfish. Not so protective." He thinks it is now Japan's turn to be the generous country on the block. Says he: "In the coming decades, other nations will recognize that Japan has really changed. Japan is doing something for the world."

That makes the older generation nervous. Why? Because they worry that Americans may not be ready to cope with a feisty younger Japanese generation. Also, a richer and more creative younger generation will not want to play a subservient role to a poorer U.S. Just look at the recent squabbling over which country was the world's top aid donor in 1990. The conclusion by the Organization for Economic Cooperation and Development that the U.S. had regained its position as No.1 sparked a retort from the Japanese that U.S. military support should no longer be included in the calculations.

Japan's new Prime Minister, Kiichi Miyazawa, 72, was a young bureaucrat in the Finance Ministry during World War II. A lot of members of his generation have opposed American policies in the past, such as the breaking up of Japan's major business groups after the war. But they always went along. Many in Japan expect Miyazawa, a sophisticated man who is fluent in English, to be tougher.

If he is, he'll get plenty of support from the younger generation. Says Masahiro Toriyama, 31, a management consultant at Nomura Research Institute who spent a total of nearly four years at various U.S. universities: "Japan and the United States share a common destiny. One cannot prosper without the other. But my generation is much more nationalistic than my father's because we have more confidence in Japan as a nation. My generation is also more arrogant. If we face threats from the U.S., we will directly accuse the Americans of being irrational. If the U.S. forms a protectionist regional economic bloc with Canada and Mexico, and the

1941
1991

January 1989
Emperor Hirohito dies

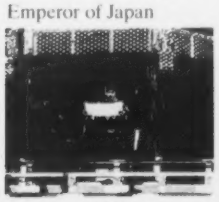
May 1989
The U.S. accuses Japan of unfair trading practices involving supercomputer sales

July 1989
The U.S. launches its so-called Structural Impediments Initiative aimed at opening Japanese markets

November 1989
Sony purchases Columbia Pictures

April 1990
Mitsubishi Estate buys 51% of Rockefeller Group

November 1990
Prince Akihito becomes Emperor of Japan



January 1991
Japan reluctantly contributes $13 billion to the Gulf war as anti-U.S. sentiment grows

June 1991
A new U.S.-Japan semiconductor agreement is signed

December 1991
The 50th anniversary of Pearl Harbor

PHOTO CREDITS: AP; TIMOTHY EAGAN; WOODFIN CAMP; NO CREDIT; SHIGEO KOGURE; TIME

NEC President Sekimoto wants to open doors for young managers.

European Community does the same, then Japan might have to form its own bloc in Asia." Kawashima has a similar vision, especially if the U.S. gets pushier in trade relations. Says he: "We should not forget Europe and the U.S., but join with Asia."

Many of Japan's older business leaders have worried that a Japanese-led economic bloc could be construed as a continuation of the World War II Greater East Asian Co-Prosperity Sphere. They are still not free from the past because Japan has never officially apologized for the war, either to the U.S. or to the Asian nations it invaded. Emperor Akihito and Japanese diplomats have come close on their overseas visits, but never to the satisfaction of their Asian neighbors. Some elders, like Hasegawa, the former chairman of Sumitomo Chemical, who worked with the Japanese government in Manchuria, still do not believe Japan should apologize. Says Hasegawa: "Many accidents occurred before the war in Manchuria broke out. We have to apologize for killing Zhang Zuolin [a Chinese military leader who opposed the Japanese government]. But to recognize Manchuria and to support it both technically and economically, that was good for people living there. So we cannot overgeneralize."

The younger generation is not manacled by these memories. When they think of the war, they think of the atomic bomb. Says Kazuhiko Nishi, 35, founder of ASCII Corp., a major producer of software for personal computers: "People 50 years ago made a mistake when they decided to fight America. It was a strategic mistake due to a lack of information. The result was suicide for the people who were in charge of the war. If I had been alive 50 years ago, I would have voted against that government action. If I had to vote now whether my country should apologize or not, I would vote that we should apologize."

Don't expect today's savvy youngsters to be bound by anything in Japan's past. Unlike their elders, they believe that in the post–Cold War era, there is no longer a need for Japan to take sides. The U.S. will need to take a fresh approach and consult more with Japan over the next 50 years. The next generation wants to be heard. If the U.S. wishes to maintain a partnership, it had better choose to listen. F

Olympus Optical President Toshiro Shimoyama, at home with his wife, Masako, thinks the younger generation will be better at business than his has been.

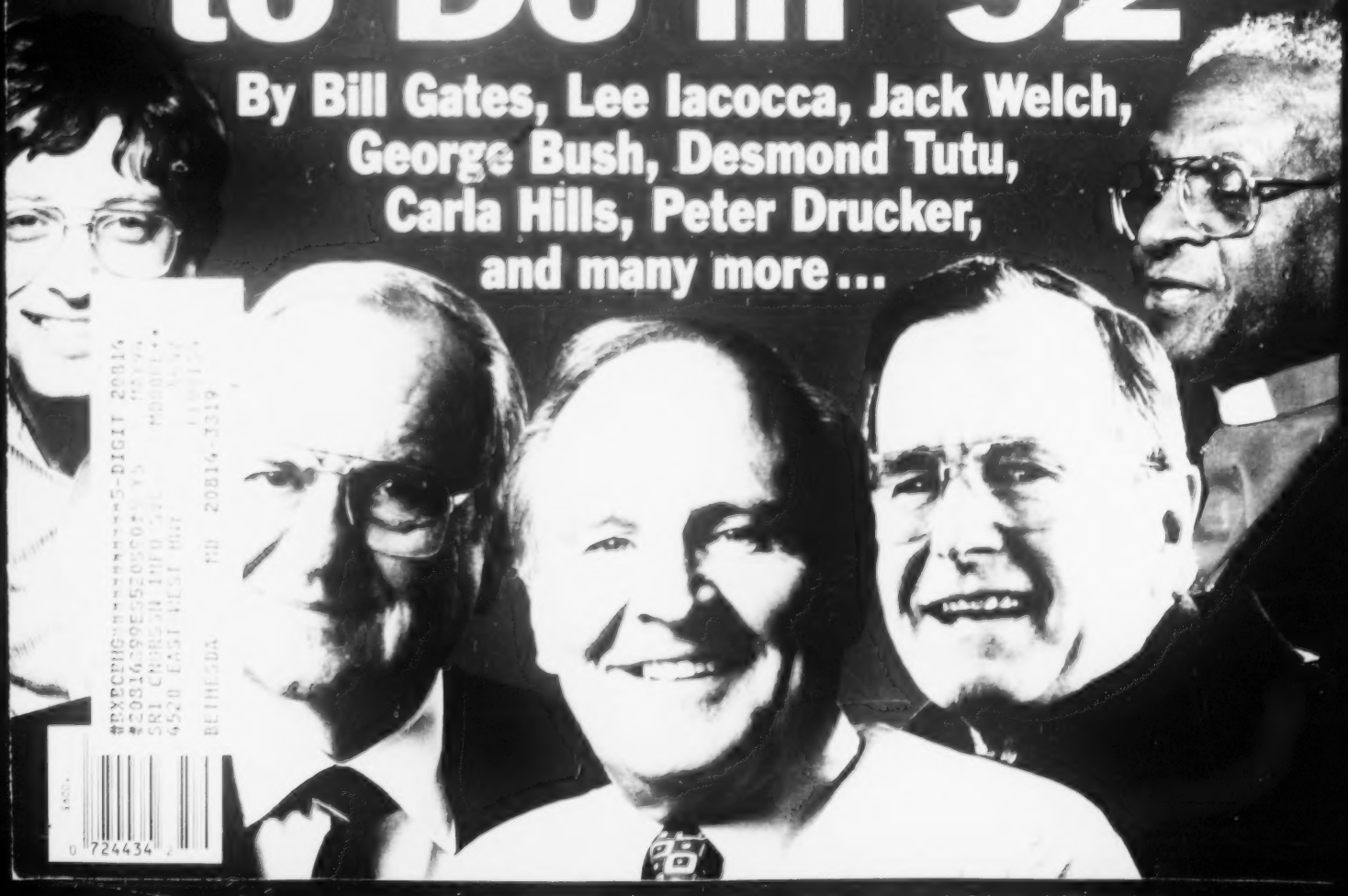
INVESTING FOR HARD TIMES • SHAKEUP AT HONDA • CUOMO'S ECONOMICS

DECEMBER 30, 1991 $3.95

FORTUNE

What I Want U.S. Business to Do in '92

By Bill Gates, Lee Iacocca, Jack Welch, George Bush, Desmond Tutu, Carla Hills, Peter Drucker, and many more...



DECEMBER 30, 1991 VOL. 124, NO. 15

FORTUNE

ABOVE: Four whose ideas we gleaned—Hills (photo by Linda Creighton), Gault (John Abbott), Tanii (Caroline Parsons), and Sculley (Doug Menuez—Reportage).

COVER: Gates (Ed Kashi), Iacocca (Michael O'Neill), Welch (Peter Gregoire), Bush (J.L. Atlan—Sygma), Tutu (Brad Markel—Gamma/Liaison)

"American business has the ability to focus on problems and solve them. Its weakness: thinking there must be almost instant return on investments." PAGE 24

SPECIAL REPORT/COVER STORY

WHAT I WANT U.S. BUSINESS TO DO IN '92 24

With the American economy convalescing and the world order in stunning metamorphosis, the globe's largest business sector senses an urgent need to change. So FORTUNE asked influential leaders in commerce, politics, religion, and academia, as well as workers, consultants, writers, and others, what they want U.S. business to do in the coming year. Their wide-ranging answers will intrigue, enrage, and surprise you—from General Electric CEO Jack Welch's thoughts on provoking ideas to Archbishop Desmond Tutu's call for togetherness and fellowship.

POLITICS & POLICY

CUOMO'S FIXES FOR THE ECONOMY 61

He has a lot of them. Here's what the New York governor told FORTUNE in Albany about what ails the nation and how to remedy it, from an investment-led recovery to controlling growth in health costs and entitlements. *by Ann Reilly Dowd*

INVESTING

INVESTING FOR HARD TIMES 74

The Eighties were richly rewarding. The Nineties are proving to be tougher. You can still succeed, but it is going to take some smart moves as the markets in stocks and bonds come back down to Earth. *by Terence P. Paré*

A FUND FAMILY FOR THE 1990s 80

In an era of diminished expectations, the iconoclastic CEO of the Vanguard mutual fund organization is offering his products at a fraction of the normal charge. Investors are signing on. Competitors are growing nervous. *by Andrew Evan Serwer*

AMERICA'S BEST MUTUAL FUNDS 90

After sales loads, expenses, and taxes, which stock and bond funds put the most money in your pocket? Here are the standout performers in 13 categories. *by Susan E. Kuhn*

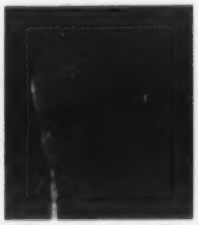
TRADE

WHY JAPAN'S SURPLUS IS RISING 95

Its exporters keep pouring out products, while its imports have gone flat. Unless Tokyo brings down the excess, world trade could be hit by a new outbreak of protectionism. *by Lee Smith*

"More is at stake in this election than in any election since the Depression."

PAGE 61



"We are in a brutally competitive environment, but the no-load, low-cost segment of [the mutual fund] business will thrive."

PAGE 80

"Executives should guard against doing on computers what their assistants can do for them."

PAGE 98

"We've exploded the myth that you can't produce competitively in the U.S., and with better quality."

PAGE 106

"We had to tell our people that what we do from now on will not be restrained by anybody else, even Mr. Honda."

PAGE 115

"The question in the mind of the foreign investor: 'Do I really want to play in traffic while Canadians sort out these matters?' "

PAGE 122

TECHNOLOGY

SAVING TIME WITH NEW TECHNOLOGY 98

Armed with laptops, palmtops, and cellular phones, executives on the go run their businesses from wherever they happen to be, and find they are a lot more productive. *by Gene Bylinsky*

HOW DO YOU LEARN ALL THAT STUFF? 104

Mastering new software and telecommunications devices when you don't have your own outside expert—and your kids aren't home to help you.

MANUFACTURING

AMERICAN COMPANIES COME BACK HOME 106

Tired of hearing about corporations that are giving up on the U.S. as a place to make things? Some have returned, and here's why they're glad they did. *by Edmund Faltermayer*

MANAGING

A U.S.-STYLE SHAKEUP AT HONDA 115

CEO Kawamoto has abandoned consensus management for American-looking organization charts. Result: Communications and decision-making are getting faster. *by Alex Taylor III*

CORPORATE PERFORMANCE

COMPANIES TO WATCH 121

Lasers from Sunrise Technologies of California are on the cutting edge in dentistry—and appeal to ophthalmologists and other medical specialists as well. *by Shelley Neumeier*

Also: Bertucci's and Micrografx.

CANADA

WHY CANADA CAN'T GET MOVING AGAIN 122

Not long ago its growth was second only to Japan's. Now businesses are fleeing to the U.S. and the economy is stuck. One reason: the rising threat of secession by Quebec. *by Louis Kraar*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 6

NEWS/TRENDS 8

The Christmas Grinch loses ground, auto showroom gridlock, corporate Boot Hill makes room for one more, wimping out on bank reform, IBM's Akers turns revolutionary, how inflation will devour your 1992 raise, why this recession is different, the Eurocondom, and more.

FORTUNE FORECAST 15

While the U.S. recession may well have ended last spring, most Americans see no sign of the beginnings of any real life in the economy. The downbeat mood itself is contributing to the fragility of the nascent expansion. *by Vivian Brownstein*

LETTERS TO FORTUNE 19

BOOKS & IDEAS 136

What to buy for Christmas: Tell Santa to keep those chip-encrusted entertainment devices in his sack and give you a good book instead. Here's a sampling. *by Gil Schwartz*

KEEPING UP 139

The necessity of obloquy (or bankrupts on the march), nausea in Boston, how to get slugged in New York, and other matters. *by Daniel Seligman*

EDITOR'S DESK

At the FORTUNE 500 Forum: General Electric's Jack Welch with Allied-Signal CEO Lawrence Bossidy

Lyondell CEO Bob Gower, Goodyear CEO Stanley Gault, Peter Drucker, and Prof. Warren Bennis

South Africa's Archbishop Desmond Tutu at the meeting with former Citicorp CEO Walter Wriston

Real estate developer Trammell Crow with Jerome Chazen, Chairman of Liz Claiborne

Defense Secretary Cheney talks about the implications of massive cutbacks in the military.

WE GAVE A PARTY—and *everybody* came. Imagine more than 100 CEOs, chairmen, and presidents of FORTUNE 500 companies listening to the President of the U.S., two governors, four Cabinet-level officers, five worldclass scholars and consultants, a Nobel Peace Prize winner—and many of the business chiefs themselves. That was the scene at the first annual FORTUNE 500 Forum in Charleston, South Carolina, a few weeks ago. It's hard to ascertain whether, as former Budget Director David Stockman remarked, half the market capitalization of the S&P 500 was represented in the meeting room, but the aggregate sales, profits, influence, and—most important—intellectual firepower was staggering.

The greatest value of such a gathering is in the ideas it produces, and by that measure this was a treasure chest. GE's Jack Welch spoke about managing intellectual capital. Defense Secretary Dick Cheney outlined defense in the Nineties, management authority Peter Drucker discussed setting strategy, Archbishop Desmond Tutu talked about morals and leadership in business, Federal Reserve Governor Wayne Angell analyzed the U.S. economy, and National Security Adviser Brent Scowcroft described America's role in the emerging world order. And those are just a handful of highlights.

Many of the resulting ideas appear in this issue's cover package. To prepare it, FORTUNE asked a diverse, worldwide group a seemingly simple question: "What do you want U.S. business to do in 1992?" Why that question now? Says Geoffrey Colvin, who edited the package: "With the U.S. economy fragile and many companies struggling, the competitiveness of the world's largest economic power is at the top of everyone's agenda." Answers varied as widely as respondents, but a few themes were clear: the need for a long-term view, less authoritarian management, and more thorough globalization. Colvin adds, "Another theme that came through over and over is trust. Many people stressed that U.S. business must regain the trust of employees and the public." Count on seeing such ideas—and many others from the Forum's heavyweights—explored in FORTUNE in the months ahead.

Marshall Loeb

MANAGING EDITOR

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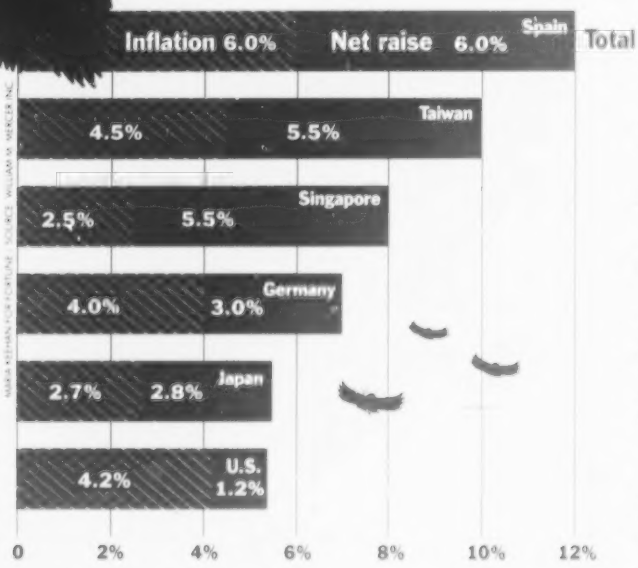
HOW INFLATION WILL DEVOUR RAISES



peak), to shrink next year by more than the 20,000 that the company has declared its goal.

Big cuts are surely going to have to come out of IBM's headquarters staff, though bushwhacking that bureaucracy will be tough. One of the risks of the new plan is that IBM's overall costs—known internally as the "expense machine"—will continue to climb as divisions gear up to do business on their own.

Just how IBM's parts are to divide up the cost of the company's colossally expensive research and development establishment isn't clear. Another uncertainty: whether IBM's marketing structure, in an age of decentralization, will permit the company to provide the broad "solutions" that many corporate customers claim they need. **– Carol J. Loomis**

SALARIES: WHAT TO EXPECT IN 1992

■ U.S. managers will be pinching pennies. William M. Mercer Inc., a New York City executive compensation firm, surveyed 3,200 American companies and found that they will award average salary increases of 5.4% next year. But Mercer's estimated inflation increase of 4.2%—about what FORTUNE forecasts—will leave managers with a paltry 1.2% extra to spend. Companies in countries with stronger economies and a smaller managerial talent pool will reward their employees more handsomely (see chart).

Some Americans will catch up to their foreign counterparts through bonuses and stock options, both of which are more common in the U.S. than abroad. But such forms of variable compensation usually reward those who need them least: CEOs and other top managers. And Wall Streeters.

Many of them trembled in their Armani suits when Chairman Warren Buffett imposed tighter compensation rules at **Salomon**. But **Goldman Sachs** has already announced the biggest bonuses since 1986. Says Craig Ulrich, a Mercer principal who specializes in compensation: "A couple of months ago it seemed that the days of paying Wall Street executives like professional athletes were over. Now that brokerage firms see they are having great years, they ask, 'How much can we pay out in bonuses?' " **– R.T.**

WANTED: BUSINESS TRAVELERS' KIDS

■ Hotels are wooing parents who travel with their children, including people who take their offspring on business trips. As bait, **Promus Cos.**' Embassy Suites has introduced the Cool Cat Kids Club in its New York City inn. The company's hotel in Palm Beach Shores, Florida, has the Fat Cat Beach Club. Both places offer an all-day activities program, a specially designed playroom, and professional caretakers. As further inducement, the chain has childproofed two floors of suites by such safety measures as covering electrical outlets.

Among Embassy's customers: Curt and Beth Hamann of Phoenix. He is executive vice president of **SmartPractice**, which distributes medical accessories such as appointment cards and disposable gloves, and she's a dentist. They make business trips with their three children, ages 1 through 4, about 15 times a year, and tote along their nanny. In New York for a dentists' convention, the Hamanns were booked into the **Marriott** Marquis, but moved across Broadway to Embassy Suites. Says Curt: "We changed because of the kids' program." An extra benefit: The Marriott charges an average $200 per room, double occupancy. Embassy provides a two-room suite for the same price. **– R.T.**

The dual careerist Hamanns leave their kids with a hotel caretaker.

WHAT SETS THIS RECESSION APART

■ Why has this recession seemed so brutal? The answer, suggests Brian Cromwell, an economist with the Federal Reserve Bank of San Francisco, is that the pain has been so concentrated in specific and populous parts of the country.

After studying state employment data, Cromwell says the U.S. economy lost a net 748,727 jobs from July 1990 to August 1991. But just 21 states took the brunt of the damage, the fewest in any postwar recession, while others showed an increase (see map). Worst hit: California, Massachusetts, Michigan, New Jersey, and New York. Although among them they account for some 30% of employment, these five states suffered nearly 60% of all job losses vs. some 25% during the far more severe 1981–82 downturn.

Among the reasons for such localized damage: A drop in defense spending hurt California, where much of the industry is based, and slumping car sales—a usual victim of tight times—hit Michigan. Other manufacturing states weathered this slump with fewer layoffs than in past recessions—a result of a decade of corporate restructuring. Overall, says Cromwell, "when factory jobs are lost, they tend to be more evenly distributed throughout the economy."

Job losses in troubled service industries like banking and retailing, along with a glutted real estate market, clobbered Massachusetts, New York, and New Jersey. Cromwell thinks future downturns may create similar patterns. Says he: "With the shift to a more service-based economy, a greater portion of employment will be subject to local or regional shocks." **– Louis S. Richman**

SOCKED BY SOCKEYES

■ To industries in the Northwest, this is more than just another fish story. The National Marine Fisheries Service, a federal agency, has added the Snake River sockeye salmon to the U.S. list of endangered species. Among the reasons for the decision: Biologists say only four of the fish—one female and three males—made it 800 miles up the Columbia and Snake rivers from the Pacific to their Idaho spawning grounds.

Saving the sockeye could force big changes in the way the eight dams along the waterways are managed and could mean less water to irrigate crops, float barges, or produce hydroelectric power. One likely result: a utility rate increase of perhaps as much as 10%.

Big business can't be blamed if this salmon dies.

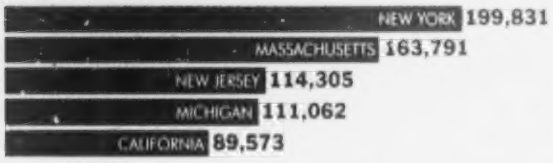
That does not sit well with aluminum companies like **Kaiser** and **Reynolds Metals**, for whom electricity represents about 30% of their production costs. Peter Forsythe, Kaiser's regional power manager, figures that kind of rate increase would cost an extra $13 million a year. Says he: "We think those kinds of impacts are unnecessarily high, especially if they don't solve the problem."

Previous rescue attempts have cost more than $1 billion. They include waterways built to help the fish bypass the dams and barges, and ferry the species downstream. Biologists think that sending more water through the river would also make the swim to the ocean easier.

The affected industries suggest simply not harvesting the sockeye at all. They maintain that there are plenty of other varieties of salmon available, thanks to Alaska, so the price of salmon steak would change little. **– Suneel Ratan**

WHICH STATES LOST THE MOST JOBS...

July 1990 – August 1991



... AND HOW REGIONS FARED

(Average percent change)

It almost didn't happen. About a year ago the Italians tried to derail efforts on condom unification by proposing a ban on domestic sales of sheaths with a diameter wider than 53 mm, or 2.06 inches. (Average width of condoms sold in the U.S.: 2.02 inches.) Bureaucrats in Brussels, headquarters for the EC, shot back that the restrictions amounted to a barrier to pan-European trade. Safety also was a concern, they argued, since condoms that are too small could split or fall off and expose partners to disease.

Italy has backed down. EC-wide standards will govern the durability and quality, but *all* Europeans will have a choice of sizes. Says Robin Gorna, a consultant to the director of social affairs in the EC's Department of Public Health in Luxembourg: "We're certainly not saying European men should have the same size apparatuses by 1994." **– Carla Rapoport**

EUROCONDOM TREATY

■ Europe may be riven over the weighty issues of monetary policy, federalism, and agricultural subsidies, but continental unity has at last been reached in one area. Yes, folks, there *will* be a Eurocondom by July 1, 1994.

NOW HEAR THIS

■ **ALAN SIMPSON,** 60, U.S. Senator (R-Wyoming), on the crime bill:
"I come from a state where gun control is just how steady you hold your weapon."

■ **KATHY KEETON,** 52, wife of *Penthouse* publisher Bob Guccione and president of the magazine's parent company:
"I think if a woman has a right to an abortion and to control her body, then she has a right to exploit her body and make money from it. We have it hard enough. Why give up one of our major assets?"

AMERICA'S BEST MUTUAL FUNDS

After sales loads, expenses, and taxes, which stock and bond funds put the most money in your pocket? Here are the standout performers in 13 categories.

■ *by Susan E. Kuhn*

If Benjamin Franklin were still alive and churning out maxims, his lesson on mutual funds would probably go something like this: The money you take beats the money you make. In that regard, meet our latest slate of mutual fund winners, ranked by their three-year performance in each of 13 categories. Unlike most fund lists, this one calculates average annual returns after subtracting all expenses, sales loads, and taxes. In other words, the returns shown here are the money-in-your-hand numbers, not the ones sitting somewhere in the bush.

By SEC decree, funds must calculate their total return after subtracting the percentage of assets that management retains to cover overhead, listed here as annual expenses. But sales loads, which are commission payments to brokers or direct marketers who sell the funds, are usually ignored. With the help of Morningstar, a mutual fund ranking service based in Chicago, we subtract this levy from the total return.

Uncle Sam's tax take on capital gains and income distributions is also seldom investigated. Here, we have taxed every distribution received at a 28% rate before reinvesting the proceeds. Because most bond funds throw off lots of taxable interest income (munis being the tax-free exception), their after-tax returns are much lower than what you typically see promoted. For stock funds, capital gains taxes can significantly reduce returns if the fund has a high portfolio turnover.

THE TOP FUNDS

Only funds currently open to individual investors in more than half the states are eligible for our list. Funds with holdings in just one state, foreign country, or industry sector have been excluded. All of the managers listed, or at least one of a team, have been with the fund throughout the three-year period. Finally, our risk ratings are based on the volatility of fund returns relative to the risk-free return from Treasury bills. Happy hunting. F

MUTUAL FUND BY CATEGORY TELEPHONE	AVG. ANNUAL RETURN		ASSETS 9/30/91	FEES		PORTFOLIO TURNOVER	RISK	MANAGER
	3years	1year	in millions	Sales load	Annual expenses			
STOCK FUNDS								
AGGRESSIVE GROWTH GROUP AVERAGE[2]	**15.5%**	**48.1%**						
Kaufmann 800-237-0132	**28.8%**	85.8%	**$90**	0.20%[3]	3.50%	**195%**	Above avg.	H. Utsch, L. Auriana
Enterprise Cap. Appreciation 800-432-4320	**24.3%**	50.4%	**$26**	4.75%	1.75%	**45%**	Average	Jeff Miller
Thomson Opportunity B 800-628-1237	**21.8%**	65.8%	**$59**	1.00%	2.00%	**106%**	Above avg.	Don Chiboucas
AIM Constellation 800-347-4246	**21.5%**	68.1%	**$300**	5.50%	1.40%	**192%**	Above avg.	H. Hutzler, J. Schoolar
Strong Discovery 800-368-3863	**20.8%**	60.6%	**$120**	2.00%	1.90%	**494%**	Below avg.	Richard S. Strong
Shearson Aggressive Growth 800-451-2010	**20.5%**	47.8%	**$156**	5.00%	1.17%	**14%**	Above avg.	R. Freeman, E. Fried
Keystone Custodian S-4 800-343-2898	**20.4%**	71.6%	**$647**	4.00%[3]	1.38%	**57%**	High	Roland Gillis
Founders Special 800-525-2440	**20.1%**	56.3%	**$177**	None	1.09%	**89%**	Above avg.	Multiple managers
Seligman Capital 800-221-2450	**19.6%**	56.6%	**$154**	4.75%	1.04%	**23%**	Above avg.	Loris Muzzatti
Delaware Group Trend 800-523-4640	**19.1%**	82.4%	**$91**	4.75%	1.30%	**67%**	Above avg.	Edward N. Antoian
GROWTH GROUP AVERAGE[2]	**13.1%**	**34.6%**						
Berger 100 800-333-1001	**31.5%**	95.4%	**$77**	None	2.13%	**145%**	Average	William M.B. Berger
Janus Twenty 800-525-8983	**31.5%**	64.6%	**$793**	None	1.07%	**163%**	Average	Thomas F. Marsico
Twentieth Century Growth 800-345-2021	**24.9%**	57.2%	**$2,988**	None	1.00%	**70%**	Average	Multiple managers
Fidelity Growth Company 800-544-8888	**24.3%**	53.3%	**$1,174**	3.00%	1.11%	**161%**	Average	Robert Stansky
AMEV Growth 800-800-2638	**22.8%**	54.2%	**$336**	4.75%	1.20%	**58%**	Above avg.	Stephen Poling
Vanguard World U.S. Growth 800-662-7447	**22.3%**	44.7%	**$755**	None	0.74%	**49%**	Average	W. Parker Hall III
Pasadena Growth 800-882-2855	**22.1%**	63.0%	**$221**	5.50%	2.20%	**32%**	Above avg.	Roger Engemann

SOURCE: MORNINGSTAR INC.

[1]Performance is through October 1991 and net of annual expenses, brokerage costs, and sales loads, also net of taxes, assuming a 28% rate for capital gains and income distributions. [2]Average annual return for all funds tracked by Morningstar in each category. [3]Redemption fee. [4]Deferred sales charge, which declines over time.

STOCK FUNDS

MUTUAL FUND BY CATEGORY TELEPHONE	AVG. ANNUAL RETURN 3years	 1year	ASSETS 9/30/91 in millions	FEES Sales load	 Annual expenses	PORTFOLIO TURNOVER	RISK	MANAGER
GROWTH cont'd								
Janus 800-525-8983	**21.7%**	40.1%	**$2,394**	None	1.02%	**307%**	Below avg.	James P. Craig
T. Rowe Price New Amer. Gr. 800-638-5660	**21.3%**	66.9%	**$187**	None	1.25%	**56%**	Above avg.	John H. Laporte
Piper Jaffray Value 800-333-6000	**21.2%**	44.9%	**$107**	4.00%	1.32%	**37%**	Average	John A. Tauer Jr.
GROWTH & INCOME GROUP AVERAGE[2]	**11.0%**	27.3%						
Composite Northwest 50 800-543-8072	**20.0%**	53.0%	**$95**	4.50%	1.26%	**8%**	Above avg.	Mark Byl
AIM Charter 800-347-4246	**19.6%**	27.7%	**$378**	5.50%	1.34%	**215%**	Low	Julian A. Lerner
Cigna Value 800-572-4462	**18.3%**	40.2%	**$130**	5.00%	1.21%	**131%**	Average	James Giblin
U.S. Boston Gr. & Inc. 800-872-7866	**15.5%**	28.3%	**$41**	1.00%	1.80%	**96%**	Below avg.	Kim Daw
Vanguard Quantitative 800-662-7447	**15.4%**	33.3%	**$307**	None	0.48%	**81%**	Average	John Nagorniak
SteinRoe Prime Equities 800-338-2550	**15.2%**	26.9%	**$55**	None	1.08%	**51%**	Below avg.	Ralph Segall
Sit "New Beg." Inc. & Gr. 800-332-5580	**14.5%**	26.9%	**$25**	None	1.50%	**70%**	Below avg.	Peter Mitchelson
Vanguard Index 500 800-662-7447	**14.2%**	31.7%	**$3,641**	None	0.19%	**23%**	Below avg.	George Sauter
Mimlic Investors I 800-443-3677	**14.0%**	31.5%	**$17**	5.00%	1.31%	**32%**	Below avg.	Jim Tatera
Founders Blue Chip 800-525-2440	**13.6%**	20.7%	**$274**	None	1.03%	**107%**	Below avg.	Multiple managers
EQUITY INCOME GROUP AVERAGE[2]	**9.1%**	24.9%						
Financial Industrial Income 800-525-8085	**19.2%**	46.0%	**$1,160**	None	0.94%	**104%**	Low	John Kaweske
Kidder Peabody Eq. Inc. 212-510-8951	**15.9%**	34.8%	**$103**	4.00%	1.60%	**178%**	Below avg.	John D. Chadwick
Helmsman Income Equity 800-338-4345	**12.2%**	25.4%	**$87**	None	0.42%	**9%**	Low	Ralph Patek
Keystone America Eq. Inc. 800-343-2898	**11.1%**	20.5%	**$25**	4.75%	2.00%	**50%**	Low	Walter McCormick
SteinRoe Total Return 800-338-2550	**10.9%**	28.8%	**$151**	None	0.88%	**75%**	Low	Robert Christensen
Capital Income Builder 800-421-0180	**10.3%**	20.4%	**$534**	5.75%	1.01%	**25%**	Low	Multiple managers
Founders Equity Inc. 800-525-2440	**10.2%**	19.2%	**$17**	None	1.65%	**107%**	Low	Multiple managers
Stratton Monthly Div. Shares 800-634-5726	**9.5%**	28.1%	**$38**	None	1.24%	**43%**	Low	G. Heffernan, J. Stratton
Alger Inc. & Gr. 800-992-3863	**9.2%**	18.1%	**$3**	5.00%	3.44%	**—74%**	Below avg.	David Alger
Prudential Eq. Inc. B 800-225-1852	**9.1%**	22.2%	**$146**	5.00%	2.22%	**58%**	Below avg.	Warren Spitz
SMALL COMPANY GROUP AVERAGE[2]	**15.1%**	54.6%						
Twentieth Century Ultra 800-345-2021	**35.5%**	101.4%	**$1,810**	None	1.00%	**41%**	Above avg.	Multiple managers
Robertson Step. Em. Growth 800-766-3863	**34.4%**	74.7%	**$91**	None	1.53%	**272%**	Average	Robert C. Czepiel
Alger Small Capitalization 800-992-3863	**31.9%**	54.8%	**$56**	5.00%	2.31%	**253%**	Above avg.	David Alger
Hartwell Emerging Growth 800-343-2898	**30.3%**	79.7%	**$72**	4.75%	2.50%	**96%**	High	John M. Hartwell
Oberweis Emerging Growth 800-323-6166	**29.7%**	104.1%	**$17**	4.00%	2.15%	**63%**	High	James Oberweis
MFS Lifetime Em. Gr. 800-225-2606	**25.6%**	93.7%	**$132**	6.00%	2.66%	**86%**	High	John W. Ballen
J. Hancock Sp. Equities 800-225-5291	**24.2%**	86.6%	**$17**	4.50%	2.75%	**113%**	Above avg.	Michael DiCarlo
Twentieth Century Vista 800-345-2021	**23.7%**	67.7%	**$598**	None	1.00%	**92%**	High	Multiple managers
Transam. Spec. Em. Gr. B 800-343-6840	**22.9%**	63.4%	**$47**	6.00%	3.11%	**82%**	Above avg.	Ed Larsen
Sit "New Beginning" Growth 800-332-5580	**22.9%**	63.1%	**$156**	None	1.03%	**37%**	Above avg.	Douglas Jones
INTERNATIONAL GROUP AVERAGE[2]	**6.9%**	5.3%						
Harbor International 800-422-1050	**15.2%**	15.8%	**$188**	None	1.35%	**19%**	Average	Hakan Castegren
Oppenheimer Global 800-525-7048	**14.6%**	11.0%	**$1,076**	5.75%	1.77%	**27%**	Average	Ken Oberman
G.T. Pacific Growth 800-824-1580	**14.2%**	6.2%	**$338**	4.75%	2.10%	**75%**	Average	Christian Wignall
Dreyfus Strategic World 800-782-6620	**14.1%**	14.4%	**$43**	3.00%	1.78%	**566%**	Low	Fiona Biggs
Fenimore Int'l Equity 800-223-7078	**13.1%**	21.7%	**$39**	5.00%	2.88%	**67%**	Average	Multiple managers
Scudder Global 800-225-2470	**12.4%**	11.3%	**$288**	None	1.81%	**38%**	Below avg.	William E. Holzer
GAN Pacific Basin 212-888-4200	**12.3%**	3.2%	**$31**	5.00%	2.23%	**103%**	Average	Michael Bunker
G.T. Worldwide Growth 800-824-1580	**12.2%**	12.9%	**$119**	4.75%	2.10%	**107%**	Below avg.	Multiple managers
Ivy International 800-235-3322	**10.1%**	11.4%	**$91**	None	1.69%	**29%**	Average	Hakan Castegren
EuroPacific Growth 800-421-9900	**10.1%**	8.0%	**$1,507**	5.75%	1.28%	**9%**	Below avg.	Multiple managers

Performance is through October 1991 and net of annual expenses, brokerage costs, and sales loads; also net of taxes, assuming a 28% rate for capital gains and income distributions. [2]Average annual return for all funds tracked by Morningstar in each category. [3]Deferred sales charge, which declines over time.

HYBRIDS

MUTUAL FUND BY CATEGORY TELEPHONE	AVG. ANNUAL RETURN 3 years	 1 year	ASSETS 9/30/91 in millions	FEES Sales load	 Annual expenses	PORTFOLIO TURNOVER	RISK	MANAGER
BALANCED FUNDS GROUP AVERAGE[2]	**9.2%**	**20.7%**						
Twentieth Century Balanced 800-345-2021	**17.8%**	41.8%	**$218**	None	1.00%	**138%**	Average	Multiple managers
Pasadena Fundamental Value 800-882-2855	**16.3%**	33.2%	**$12**	5.50%	2.50%	**36%**	Average	Roger Engemann
CGM Mutual 800-345-4048	**16.0%**	39.7%	**$360**	None	0.95%	**261%**	Average	G. Kenneth Heebner
Pax World 800-767-1729	**14.2%**	21.0%	**$225**	None	1.30%	**39%**	Low	Anthony Brown
Equitable Bal. Back-Load 800-852-6860	**14.0%**	27.4%	**$26**	5.00%	2.10%	**137%**	Below avg.	Judith Taylor
Kemper Inv. Port. 800-621-1048	**13.5%**	30.2%	**$634**	3.00%	2.24%	**121%**	Average	C. Beth Cotner
MainStay Total Return 800-522-4202	**13.2%**	28.3%	**$121**	5.00%	2.30%	**171%**	Below avg.	R. Akhoury, R. Worobel
Kemper Total Return 800-621-1048	**13.2%**	27.2%	**$979**	5.75%	0.87%	**157%**	Below avg.	Gordon Wilson
Phoenix Balanced 800-243-4361	**12.9%**	17.4%	**$865**	4.75%	0.90%	**193%**	Low	Patricia Bannan
Fidelity Balanced 800-544-8888	**11.2%**	27.8%	**$573**	None	0.98%	**238%**	Low	Robert J. Haber
CONVERTIBLE BONDS GROUP AVERAGE[2]	**7.9%**	**26.1%**						
Pacific Horizon Capital Inc. 800-332-3863	**12.8%**	33.3%	**$2**	4.50%	0.90%*	**236%**	Average	William Hensel
Concord Income Convertible 800-274-7866	**9.3%**	41.7%	**$6**	4.50%	2.50%	**26%**	Average	Richard B. Russell
Vanguard Conv. Securities 800-662-7447	**9.0%**	39.9%	**$56**	None	0.88%	**55%**	Above avg.	Rohit M. Desai
SBSF Conv. Securities 800-422-7273	**8.7%**	30.0%	**$28**	None	1.39%	**32%**	Below avg.	Louis R. Benzak
American Capital Harbor 800-421-5666	**8.2%**	15.7%	**$360**	5.75%	0.89%	**71%**	Below avg.	James H. Behrmann
JUNK GROUP AVERAGE[2]	**1.9%**	**23.8%**						
Plymouth High Yield 800-522-7297	**8.6%**	28.7%	**$34**	4.75%	1.10%	**135%**	Low	Margaret Eagle
Oppenh. Champ. High Yld. 800-525-7048	**6.4%**	19.8%	**$16**	4.75%	1.52%	**68%**	Low	Ralph Stellmacher
American High-Income 800-421-0180	**5.9%**	25.0%	**$255**	4.75%	1.00%	**38%**	Below avg.	R. Schotte, D. Barclay
Merrill Lynch Corp. Hi. Inc. B 609-282-2800	**5.6%**	28.2%	**$265**	4.00%	1.48%	**48%**	Below avg.	Vincent T. Lathbury
Merrill Lynch Corp. Hi. Inc. A 609-282-2800	**5.4%**	28.6%	**$523**	4.00%	0.69%	**48%**	Below avg.	Vincent T. Lathbury
MORTGAGE-BACKED GROUP AVERAGE[2]	**7.6%**	**8.1%**						
Vanguard Fixed Inc. GNMA 800-662-7447	**9.1%**	14.3%	**$4,575**	None	0.30%	**1%**	Average	Paul Sullivan
Benham GNMA Income 800-472-3389	**8.7%**	13.6%	**$619**	None	0.72%	**207%**	Average	Randy Merk
Fidelity Ginnie Mae 800-544-8888	**8.6%**	12.4%	**$845**	None	0.83%	**125%**	Average	James Wolfson
Lexington GNMA Income 800-526-0057	**8.5%**	13.7%	**$113**	None	1.06%	**146%**	Above avg.	Denis Jamison
Fidelity Mortgage Securities 800-544-8888	**8.4%**	12.6%	**$425**	None	0.82%	**209%**	Below avg.	James Wolfson
TREASURY GROUP AVERAGE[2]	**8.3%**	**13.1%**						
Dreyfus U.S. Gov't 800-782-6620	**8.7%**	14.5%	**$156**	None	0.24%	**31%**	Above avg.	Barbara Kenworthy
Vanguard U.S. Treasury 800-662-7447	**8.6%**	15.4%	**$844**	None	0.28%	**147%**	High	I. MacKinnon, A. Jiorle
Counsellors Interm. Gov't 800-888-6878	**7.6%**	11.4%	**$84**	None	0.53%	**55%**	Below avg.	Stuart M. Goode
Benham Treasury Note 800-472-3389	**7.5%**	10.6%	**$255**	None	0.73%	**70%**	Average	Jeffrey Tyler
Dreyfus U.S. Gov't Interm. 800-782-6620	**7.3%**	10.6%	**$139**	None	0.93%	**4%**	Average	Barbara Kenworthy
MUNICIPAL GROUP AVERAGE[2]	**8.2%**	**8.0%**						
General Municipal Bond 800-782-6620	**10.6%**	15.2%	**$582**	None	0.73%*	**50%**	Average	Paul Disdier
Financial Tax-Free Inc. Shares 800-525-8085	**9.7%**	13.3%	**$230**	None	0.93%	**25%**	High	William Veronda
Vanguard Municipal L-T 800-662-7447	**9.4%**	13.8%	**$829**	None	0.26%	**53%**	High	I. MacKinnon, J. Jacobs
Vanguard Municipal Interm. 800-662-7447	**9.0%**	12.3%	**$2,132**	None	0.26%	**19%**	Below avg.	I. MacKinnon, J. Jacobs
Safeco Municipal Bond 800-426-6730	**8.9%**	13.8%	**$398**	None	0.56%	**39%**	Below avg.	Steve Bauer
INTERNATIONAL GROUP AVERAGE[2]	**5.5%**	**3.2%**						
Van Eck World Income 800-221-2220	**8.4%**	3.8%	**$111**	4.75%	1.61%	**276%**	Above avg.	K. Buescher, D. Kenerson
Fidelity Global Bond 800-544-8888	**7.8%**	7.6%	**$154**	None	1.43%	**235%**	Above avg.	Judy M. Pagliuca
Merrill Lynch Global B 609-282-2800	**6.9%**	5.1%	**$327**	4.00%	1.81%	**160%**	High	D. Walter, L. Teitelbaum
Merrill Lynch Global A 609-282-2800	**6.7%**	5.6%	**$19**	4.00%	1.03%	**160%**	High	D. Walter, L. Teitelbaum
MFS Worldwide Gov'ts 800-225-2606	**6.1%**	-1.6%	**$233**	4.75%	1.70%	**220%**	High	Leslie J. Nanberg

BOND FUNDS

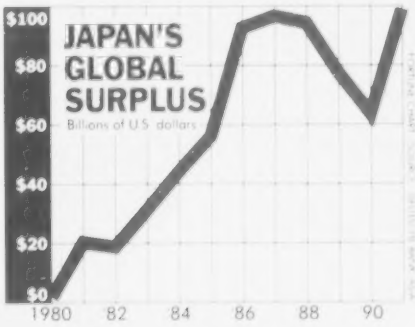
Performance is through October 1991 and net of annual expenses, brokerage fees, but not sales loads, and net of taxes, assuming a 28% rate for capital gains and income distributions. [1]Average annual return for all funds tracked by Morningstar in each category. [2]Deferred sales charge, which declines over time. *Currently absorbed by the management company.

WHY JAPAN'S SURPLUS IS RISING

Its exporters keep pouring out products, while its imports have gone flat. Unless Tokyo brings down the excess, world trade could be hit by a new outbreak of protectionism. ■ *by Lee Smith*

LIKE AN ESPECIALLY persistent infection, Japan's worldwide trade surplus is swelling again. After subsiding steadily for the past three years, it seems set to bulge in 1991 to a record $99 billion, a lump larger than the entire economy of thriving Thailand. More troubling still, Kenneth Courtis, senior economist in Deutsche Bank's Tokyo office, predicts Japan's surplus will hang above $100 billion at least through 1995.

The political strains posed by this imbalance are increasingly going global. Japan is shipping so many machine tools to its neighbors that its surplus with China and Southeast Asia has jumped in a year from $17 billion to $29 billion. Because Japanese consumers have cut back on fancy imports, the surplus with the European Community has increased from $18 billion to $28 billion. Stung by strong Japanese car exports, Germany's automakers sound more and more like Detroit's Big Three as they rail against "unfair" competition.



The risk of a protectionist backlash against the Japanese juggernaut also remains high in the U.S. Though America's deficit with Japan has dropped from a record $52 billion in 1987 to $41 billion, that's still a very big number—and it's not likely to go down anytime soon. Pile that news on top of a sluggish economy in an election year, and something could snap in the American body politic. "This is a dangerous time," says American Enterprise Institute scholar Norman Ornstein. "People are feeling very sour, and they could turn that anger toward the Japanese."

In Washington, Congressman Dick Gephardt, the Democrats' second-in-command in the House, has just introduced a bill that would force President Bush to retaliate with tariffs against the Japanese if they block their markets to anyone, not just the U.S. In Detroit, hard-pressed auto executives are also talking tougher than ever. Harold "Red" Poling, Ford's CEO, believes the U.S. should stop negotiating and simply instruct the Japanese that "they've got five years to get their trade with us down to a reasonable level." What's reasonable? "Plus or minus $5 billion," he says—a truly jaw-dropping U-turn.

What lies behind this new inflammation? Japan in the past six years has invested $3 trillion in new plant and equipment—$4,800 per worker, compared with $2,300 per worker in the U.S. Most of that money has paid for ever more clever production methods and machinery rather than shiny new plants. Sounds like just the forward-thinking investment strategy that many Americans think their own companies should pursue (see Cover Story). In Japan's case, the inevitable result of this efficiency drive has been to further increase its industries' capacity.

That's most evident in automobiles, which together with auto parts account for 75% of America's trade deficit with Japan. David Cole, director of the University of

REPORTER ASSOCIATES *Suneel Ratan and Emily Thornton*

Christmas shopping at Goods Guys electronics in San Francisco: Most of what's on sale is Japanese.

Michigan's auto studies center, recently toured a number of Japanese car plants. Says he: "One executive admitted to me that they are racing at lightning speed to the edge of the abyss. They are outstripping the world's ability to absorb their product."

WHAT REALLY troubles thoughtful policymakers is that Japan's imports have suddenly gone flat. In Germany, home of the world's other outsize trade surplus, a post-unification import boom has cut the surplus dramatically—from $65 billion in 1990 to an estimated $9 billion in 1991. But Japan's imports have fallen from $217 billion in 1990 to $205 billion this year. Says U.S. Trade Representative Carla Hills: "The global system won't work if the second-largest industrial economy is not importing."

Part of the explanation: Iraq's invasion of Kuwait drove oil prices up to $32 a barrel a year ago; when they fell back to about $20 this year, that knocked $8 billion off Japan's import bill. Japan's red-hot domestic economy has also cooled since mid-1990, reducing demand for imports. Christopher Mitchinson, a managing director in Salomon Brothers' London office, believes the economy might actually shrink in the current quarter and doesn't expect business to pick up again until next spring.

With unemployment at only 2%, Japanese consumers don't worry about losing their jobs. Inexpensive imports are still doing well. Japanese are buying American cigarettes so fast that the U.S. now has a 16% share of the market, up from 1% a decade ago. *Terminator 2* draws crowds, as big and noisy American films generally do. Advance publicity for the December 20 opening of a Toys "R" Us north of Tokyo, the first major foreign-owned store in the country, has the younger set stirred up.

The falloff has come in luxury items Japan's new rich piled up for several years. The

WHICH LOOKS MORE LIKE A THIRD WORLD COUNTRY?

	Top Japanese exports to the U.S.	1991 Value in millions		Top U.S. exports to Japan	1991 Value in millions
1	Cars	$21,123	1	Cigarettes	$1,673
2	Computer disk drives	$3,595	2	Computer parts and accessories	$1,665
3	Computer parts and accessories	$2,572	3	Aircraft	$1,629
4	Semiconductors	$2,442	4	Corn	$1,407
5	Computer memory chips	$2,434	5	Timber	$1,280
6	Television cameras	$2,431	6	Computers	$1,191
7	Trucks	$1,801	7	Semiconductors	$1,116
8	VCRs	$1,498	8	Aluminum	$955
9	Car transmissions	$1,012	9	Airplane parts	$897
10	Copiers	$920	10	Soybeans	$840

FORTUNE TABLE | SOURCE: FORTUNE ESTIMATES BASED ON DEPARTMENT OF COMMERCE DATA

WHO'S
BEEN RATED MOST
PROFESSIONAL
FOUR YEARS IN A ROW?

real estate and stock market booms created a lot of millionaires who found their yen could buy Mercedes, Kentucky yearlings, and, if not a van Gogh, a second-rank impressionist. But the Nikkei average has plunged more than 40% in two years. Like their American counterparts, for now Japan's big spenders have decided cheap is trendy.

Art collectors are spending only one-fifth as much in the U.S. for paintings as last year: $190 million in the first eight months of 1991. The real loser has been Europe. Through the first nine months, German car sales in Japan fell 14% to 88,824, and European jewelry fell off a cliff.

Finally, don't Japanese government and business continue to resist buying foreign? Yes, but critics exaggerate the barriers. "Japanese markets for manufactures, for services, and for agriculture remain virtually closed," says MIT economist Rudiger Dornbusch. But Japan imports almost as much American farm produce as all of Western Europe; Japan Airlines is the world's largest customer for Boeing 747s; General Electric sells Japan everything from nuclear reactors to CAT scanners; and 40% of the computers in the private sector are foreign made.

Under pressure from the U.S., even the Japanese government has recently bought three American supercomputers, up from zero previously. That same pressure has raised the foreign—mostly American—slice of Japan's semiconductor market from 8.5% to 13.5% in the past five years. The U.S. thinks a 20% share would be reasonable. Carla Hills credits Tokyo with expanding the staffs of its Fair Trade Commission and patent office, which should make it easier to enforce antitrust laws and stiffen the protection of foreign innovations.

Zoning reform finally made it possible for Toys "R" Us to cross the Pacific. New codes that will go into effect in 1993 will allow Japanese contractors to raise their wooden apartment houses three stories high, a floor more than permitted now. That and other changes in the rules could add $1 billion a year to lumber imports from the U.S.

True, the rice market remains closed tight. The Uruguay round of the GATT talks might force it open. But that will happen only if the Europeans agree to lower the huge subsidies they pay their farmers and if the U.S. reduces protection for its dairy farmers, sugar growers, and others, a reminder that Japan is hardly singular in wanting to take care of its own.

Getting Japanese industry to buy foreign components is the other lingering and gigantic quarrel. Companies favor a clique of suppliers, often related by intertwining ownerships, the infamous keiretsu. That practice excludes most Japanese competitors as well as foreign ones. But the clubby system can be opened up. Toyota recently pledged to buy $5 billion worth of American parts a year, starting in mid-1994, compared with $3 billion or so now. Nissan promised to increase its American purchases from $1.5 billion to $3.3 billion at about the same time.

What infuriates outsiders is that Japan rarely takes its medicine willingly. Despite itself, the patient has and can get better. But if the tonic doesn't start going down a lot faster, the world trading system may not be able to avoid catching double pneumonia. F

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FORTUNE

CAN GM REMODEL ITSELF?

Inside the upheaval at the world's biggest manufacturer

CEO Robert Stempel cuts, cuts—and cuts still more.

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FORTUNE

"The challenge for Stempel is to look people in the eye who may be his friends and tell them it's time to go home."
PAGE 26

ABOVE: Robert Stempel, photographed by Michael L. Abramson at the December news conference in which the GM chairman announced the elimination of thousands of jobs.

COVER: To salvage his company, Stempel will have to restructure radically. Photograph by William Coupon.

AUTOS/COVER STORY

CAN GM REMODEL ITSELF? 26

The company can make great cars. But can it make money on them? As losses pile up and cash dwindles, CEO Robert Stempel has ordered significant cuts that will help get the company's payroll and production capacity more in line with its sales. However, salvaging General Motors will require not only reform but further upheaval. From instilling accountability to rationalizing the product line to getting tough with the union, sympathetic industry experts propose a number of steps GM may be wise to take to gain efficiency. Much is at stake, not only for GM but for the entire automotive industry and the U.S. economy. *by Alex Taylor III*

THE ECONOMY

INCHING INTO RECOVERY 36

It may seem hard to imagine in the present gloom, but growth will quicken into a recognizable expansion by mid-1992. *by Vivian Brownstein*

THE WINNERS AND LOSERS 44

Most industries will get help; few will see notable growth. *by John Labate and Stephanie Losee*

SPOTTING A BREAK IN THE CLOUDS 53

In FORTUNE's latest poll, top CEOs agree the economy is still in recession, though their companies mostly are not. *by Richard S. Teitelbaum*

EXECUTIVE LIFE

NEW FRONTIERS IN COMMUTING 56

Some 108 million of us now drive to work. But quit honking. We're on the phone. Or washing clothes, cooking, or flossing teeth. *by John Huey*

INTERNATIONAL

RUSSIA STARTS ALL OVER AGAIN 60

Boris Yeltsin is reshaping the old union. All Mikhail Gorbachev did was set the stage—and change the world. *by Paul Hofheinz*

CORPORATE PERFORMANCE

WASTE MANAGEMENT: CHANGE WITH THE MARKET OR DIE 62

After a decade of spectacular success, CEO Dean Buntrock sees his old way of doing business threatened. He's got a new plan.

BODY SHOP: WHAT SELLING WILL BE LIKE IN THE '90s 63

The iconoclastic cosmetics maker offers product information instead of a sales pitch. *by Rahul Jacob*

"The teaching of quality principles and practices represents knowledge missing from almost all of our new hires."

PAGE 12

"There is no magic bullet that is going to turn the economy around. We are paying for the excesses of the 1980s."

PAGE 53

"Consumers crave information, not another bloody marketing hyperbole. Give them the facts."

PAGE 63

"The people who didn't do much in life and don't do much in retirement are those who pass away first."

PAGE 68

"Do public officials have a right to use pension fund assets for budget balancing? The answer is a clear no."

PAGE 76

"Everything he gets involved in becomes a Ted Turner project. Well, this is a *Teddy* Turner project."

PAGE 85

CORPORATE PERFORMANCE

ARVIN INDUSTRIES: A QUICK COURSE IN GOING GLOBAL 64

Talk of the "world car" drove this auto parts maker profitably abroad. *by Peter Nulty*

COMPANIES TO WATCH 65

Nabors Industries' slick path to profits: drilling in Alaska and overseas. *by Shelley Neumeier*

Also: ILC Technology, Outlook Graphics, and NutraMax Products.

POLITICS & POLICY

THE TYRANNY OF AMERICA'S OLD 68

By clinging to an outsize share of governmental goodies, the elderly are unintentionally forcing the nation to shortchange its young. Herein some ways to solve the problem. *by Lee Smith*

INNOVATION

PRODUCTS TO WATCH 75

A Guinness stout that tastes of the tap but comes in a can, a wide-sweeping video security system, and more. *by Alison L. Sprout*

MONEY & MARKETS

THE GREAT PENSION ROBBERY 76

States and cities are plundering employee pension funds to ease their budget crises. Taxpayers may be stuck if the plans can't meet their future obligations. *by Alan Deutschman*

TECHNOLOGY

TECHNOLOGY TO WATCH 79

You may soon start your day by strapping on a computer instead of a watch. *by David Kirkpatrick*

MANAGING

BIGGEST BUSINESS GOOFS OF 1991 80

There are mistakes, and then there are *mistakes*. FORTUNE presents ten outrageous blunders of the year, from Salomon Brothers' improper bidding on Treasury securities to McDonnell Douglas's rough evacuation tests. *by Alan Farnham*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12

Now for Jack Welch's second act, Japan snares more young car buyers, bull's-eye evades investing pros, corporate chiefs wanna play ball, B-school faculty to get quality training, and more.

PERSONAL INVESTING 17

A safer way to play the small-stock rally: the convertible security. *by Susan E. Kuhn*

Also: An up-'n'-comer from Down Under, and where to look for higher yields.

LETTERS TO FORTUNE 22

FORTUNE PEOPLE 85

The U.S. Mint makes Marc Rich richer, Penny Pritzker—a billionairess whose career is popping, money manager Peter Lynch's whiz of a protégé, and more. *by Andrew Erdman*

KEEPING UP 87

Why low morale may be "natural," keeping abreast of prudery at Penn State, why fingers travel so far (or how to stroke a key), and other matters. *by Daniel Seligman*

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EDITOR'S DESK

Chief forecaster Vivian Brownstein and editor Charles Burck

HOW'S BUSINESS? That's the question almost everybody is asking, and rarely has it been so hard to answer. Yet every day people facing tough markets must make decisions based not on the mood of the minute, but on the economy's future thrust. As senior editor Charles Burck puts it, "I cannot recall a time when people have been more anxious or uncertain." And that's an apt moment to offer you a guide to where the American economy is going.

The package beginning on page 36 contains our 18-month forecast, plus a detailed forecast for 19 key industries and a poll of FORTUNE 500 CEOs. Says executive editor Allan Demaree: "Ours is the only magazine with its own economists using our own economic models to produce our own forecasts. While we write about business as journalists, we also bring economic analysis to bear—in the same way an investment bank or the Congressional Budget Office would."

This is our first 18-month forecast since Vivian Brownstein, a veteran of our economic team, became FORTUNE's chief economist. Brownstein acknowledges a special challenge: "The gloom has been so pervasive that you have to assess how much it is affecting the real results." In separating the momentary mood from the underlying fundamentals, Brownstein was backed by economist Joseph Spiers, reporters Lenore Schiff and Lorraine Carson, and Todd May Jr., our former chief economist, who recently retired at 65.

Their analysis jibes with the views of the chief executives polled, who also foresee gradual strengthening—"a nice bit of corroboration," says Burck. And a nice bit of specific insight is the story on what lies ahead for major industries. It was prepared by reporters Stephanie Losee and John Labate, who interviewed scores of economists, security analysts, and executives.

After all the news on General Motors, what more can be said about the world's largest manufacturer? Well, quite a lot. Alex Taylor, a member of our board of editors, comes to the story with the perspective and sources gained through 14 years of following the auto industry. For months now he has been posing some basic questions: What are the prospects for GM's future, and what further changes may it productively make? For answers, see page 26.

Writer Alex Taylor analyzes GM's future.

Marshall Loeb

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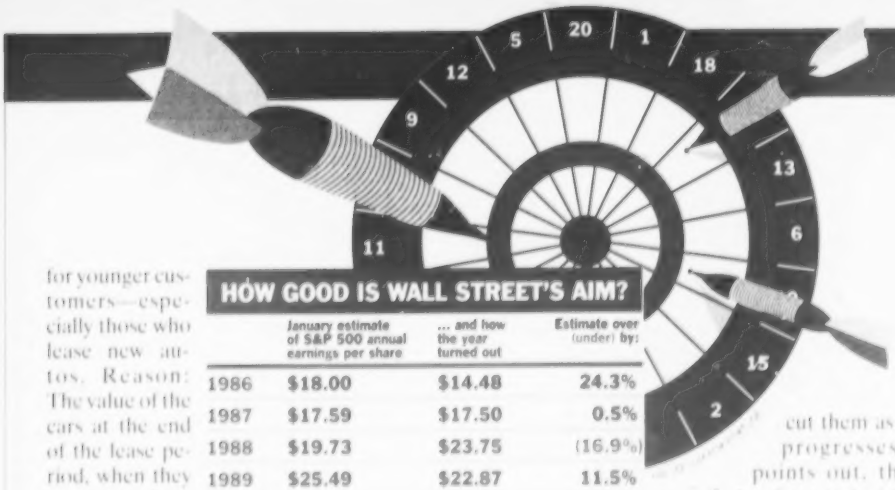


for younger customers—especially those who lease new autos. Reason: The value of the cars at the end of the lease period, when they are put back on the market, enables manufacturers and other leasing companies to charge less per month, even though the sticker price on Japanese autos is often higher. The table shows how this works for comparable four-door sedans leased for three years. Finance charges, about the same for each car, are not included.

Those who lease Japanese cars are 35, on average, and those who sign on for American ones, 39. And the Japanese, who got into leasing late, are quickly making up for lost time: Since 1989 they have increased their U.S. market share from 15.4% to 25.9%.

The Japanese are also building more customer loyalty than Detroit. According to CNW Marketing Research, which tracks leasing nationwide, 62% of first-time **Toyota** lessors buy or lease another, vs. a 39% repeat business for **General Motors**. (For more on GM, see Cover Story.) **– Rick Tetzeli**

The Accord LX holds its value.

WHY JAPAN'S CARS LEASE FOR LESS

	Monthly payment	Sticker price	Value held after 3 yrs. (%) ($)
Toyota Camry	$280	$15,980	37% ($5,913)
Chevrolet Lumina	**$294**	**$14,680**	**28% ($4,110)**
Ford Taurus GL	**$325**	**$16,480**	**29% ($4,779)**

FORTUNE TABLE / SOURCE: CNW MARKETING RESEARCH DATA BASE, 1992 MODEL YEAR

HOW GOOD IS WALL STREET'S AIM?

	January estimate of S&P 500 annual earnings per share	... and how the year turned out	Estimate over (under) by:
1986	$18.00	$14.48	24.3%
1987	$17.59	$17.50	0.5%
1988	$19.73	$23.75	(16.9%)
1989	$25.49	$22.87	11.5%
1990	$25.45	$21.34	19.3%
1991	$23.13	$18.00*	28.5%

BULL'S-EYE EVADES INVESTING PROS

■ If past is prologue, investors shouldn't put too much stock in the predictions of Wall Street's top strategists. They're the folk who look at macroeconomic trends while security analysts focus on individual companies. At the beginning of each year, some 25 strategists forecast what the S&P 500 will earn per share for the 12 months. But the average estimate rarely hits the mark (see table).

According to Zacks Investment Research, which tracks such predictions, last January the group predicted $23.13 for 1991. So far, that's about 28% higher than where the S&P seems likely to end up. Why the inaccuracy? Explains executive VP Ben Zacks: "The general nature of the whole investment community is to be optimistic because they're in the business of selling stock."

Patricia Shangkuan, a VP in Goldman Sachs's strategy group, concedes that strategists and, to an even greater extent, stock analysts tend to overestimate earnings initially and cut them as a year progresses. She points out, though, that a few strategists estimate profits from continuing operations before write-downs cut earnings. Adds she: "But even so, the estimates are too high. Part of the reason is that when we entered the recession the belief was that we'd bounce out quickly. The situation was worse than expected." **– A.J.M.**

St. Louis, whose Cardinals went to Phoenix in 1988, wants another team.

CORPORATE CHIEFS WANNA PLAY BALL

■ Forget the Super Bowl. The **National Football League**'s real big-money game took place recently when representatives from ten cities opened their play books to the league's expansion committee in hopes of gaining one of two new franchises to be awarded this year.

The cost of gridiron figures to be at least three touchdowns north of $100 million. The wannabe players: Baltimore, Charlotte, Jacksonville, Memphis, Nashville, Oakland, Raleigh-Durham, Sacramento, San Antonio, and St. Louis.

The NFL prohibits corporate ownership, but corporate biggies can still keep their eye on the ball. Examples:

From St. Louis came **Anheuser-Busch Cos.** executive VP Michael J. Roarty, who helped make the pitch for an ownership group that includes James B. (as in Busch) Orthwein, a board member for the brewer, and former Chicago Bears great Walter Payton.

Memphis countered with **Federal Express** CEO Fred Smith, fronting for an ownership squad that includes former Packer Willie D. Davis, now CEO of **All Pro Broadcasting**, a group of radio stations.

Baltimore has three competing groups. One includes Lenny Weinglass, chairman of the hot retailer **Merry-Go-Round Enterprises**. His challengers include spy book author Tom Clancy and Malcolm I. Glazer, owner of **First Allied**, a Florida investment firm.

The addition of an NFL club could add up to $450 million to

SPOTTING A BREAK IN THE CLOUDS

Top CEOs agree the economy is still in recession, though their own companies mostly are not. Their biggest peeve: President Bush's failure to act like a leader. ■ *by Richard S. Teitelbaum*

YES, the economy is now in a swoon—but the word from America's chief executives is that, despite relentless pessimism, the nation *could* be better off than many people think. More than half the FORTUNE 500 and Service 500 CEOs surveyed in our latest poll believe their own businesses are either on the mend or never felt the slowdown to begin with. Another 14% expect a pickup in the first half of 1992. That's the best news we've heard in a while, but it contrasts with the poll's finding that an overwhelming 69% feel the nation as a whole is still stuck in a recession. Reasons for the discrepancy—frequent in such surveys—remain elusive. Perhaps the CEOs are Pollyanas when it comes to their own shops; perhaps they're unduly downbeat about everyone else. Maybe their businesses are better than the economy in general.

Q A Has the national economy begun to recover from the recession?

Begun to recover	29%
Still in recession	69%
Not sure	2%

Q A Has your business started to recover?

Yes	30%
No	48%
Never had a slowdown	22%

Q A If not, when do you expect it to?

First half of 1992	29%
Second half of 1992	63%
Later	7%
Not sure	1%

To be sure, many executives do tend to paint rosy pictures of their own enterprises. Says John F. Fort of Tyco Laboratories: "Thirty percent of CEOs *never* admit their business isn't doing well." But others, like William J. Alley of American Brands, are willing to venture that gloom has gotten the better of their peers when it comes to gauging the national economy: "There may be something to what President Bush says, that it's not as bad as people think. So much depends on what economist you're listening to or what article you're reading or what part of the economy you're talking about." And Unocal's Richard J. Stegemeier states flatly: "I think the recession per se is exaggerated. I'm not referring to the man out of work, who feels it most, but the country in general."

Those who say their business is still in the dumps don't see a quick turnaround. Sixty-three percent expect to wait until the second half, while 7% feel a rebound won't come until 1993—or later. Frank A. Olson of Hertz Corp. points to the enormous debt that remains to be paid down and the structural problems of the financial sector. "The banks are trying to build their capital bases, so they are not lending money," he says. "It's going to take four to five years for us to dig out entirely." And even President Bush has backed off on his insistence that the economy is on the rebound.

Still, about a third of those now suffering expect a pickup in the first half of 1992. Amos R. McMullian of Flowers Industries, a food company, thinks his business is a leading indicator. Says he: "We're just, just seeing the beginning of a turnaround."

FORTUNE's latest poll was conducted between December 4 and December 12, before the Fed's big discount rate cut, by the independent opinion research firm of Clark Martire & Bartolomeo. The respondents included 200 chief executives of FORTUNE 500 and Service 500 companies. Their replies shed a little light on the layoff wave currently grabbing headlines. They were three times as likely to be cutting back on staff as to be hiring. A solid 58% described their employment as "holding steady"—a figure to keep in mind as restructuring announcements continue. But of those who aren't hiring, only 44% expect to resume in 1992. In 1993, 60% will be hiring.

When the subject turns to how Bush is

"The U.S. is not going to hell in a handbasket. Our industries will emerge stronger than ever from this recession."

WILLIAM J. ALLEY
American Brands

Q A Which of these comes closest to describing the employment situation at your company?

We are cutting back on staff	30%
We are hiring	10%
We are holding steady	58%
No answer	2%

PHOTOGRAPHS BY ROB KINMONTH

"No single magic bullet is going to turn the economy around. We are paying for the excesses of the Eighties."

MAURICE R. GREENBERG
American Int'l Group

handling the economy. Democrats can take heart from the Bronx cheer big business gives the President. By a margin of 2 to 1, CEOs disapprove of his efforts or lack thereof. Some complain he was too slow to react to the recession. Others are more troubled by his failure to articulate a set of economic goals for the nation.

Often the criticism is biting. "I don't think that he has a policy," says W. B. Seaton, who is retiring as CEO of American President Cos., a transportation company. "He's just reacting to events as they happen." Adds Finis Conner of Conner Peripherals: "If I ran my company the way he's running the country, I wouldn't have much of a company left."

Even those who oppose fiscal intervention fault Bush for not explaining his position effectively. Says Robert C. Winters, of Prudential Insurance Co. of America: "The President has not been speaking to the people—buying socks doesn't cut it. The captain should not be on the bridge but on the deck reassuring his troops and those depending on him." Robert J. O'Toole of A.O. Smith Corp. faults Bush for his diffident handling of the recession: "For heaven's sake, speak out. The President needs to take a stronger leadership position on the economy." O Great Communicator, where are you when we really need you?

What kind of prescriptions do the patients want from the White House doctor? The executives overwhelmingly endorsed the use of two fiscal measures to get the economy percolating. Fully 82% liked an investment tax credit. Finn M.W. Caspersen of Beneficial Corp., argues that a credit with a fixed duration, say 18 months to two years, would prod people to invest quickly, while also limiting any negative effects on the budget deficit. A solid 74% favored broadening the eligibility for individual retirement accounts. Executives split evenly on whether expanded public works projects would be a good idea.

CEOs gave thumbs down to moves aimed mainly at stimulating consumption. A reduction in the personal income tax was frowned on by 64% of those polled. Says Tyco's Fort: "Running out and doing a cosmetic tax cut, particularly at the expense of the deficit, isn't going to accomplish anything." Still, special-interest proposals of the sort that make free-market fans gnash their teeth can attract large constituencies. More than 40% of the CEOs would welcome bringing back the deduction for interest paid on new car loans. A third, wrapping themselves in the flag, would hail an interest deduction that applied only to cars made in the U.S.

Some CEOs accept that whatever the President does will have to be swaddled in a compromise package. Says Beneficial's Caspersen: "As a political matter, you'll have to include things that benefit the middle class immediately, because other measures—like any kind of investment credit—will take six to nine months to trickle down." Others acknowledge that whatever is done to put the spring back in America's industrial gait won't put the unemployed back to work as fast as people want. Says Maurice R. Greenberg of American International Group: "There is no single magic bullet that is suddenly going to turn the economy around. We are paying for the excesses of the 1980s."

In fact, Bush's laissez-faire approach—the object of so much CEO scorn—has won him praise from the minority, including Greenberg, who approve of his policies. They tell Bush to stick to his guns—or rather, keep his fiscal shooters holstered—even if it takes years for the recession to work itself out. "All this clamoring for government to take over and handle the economy is misguided," says William T. Esrey of United Telecommunications. "We have a free-enterprise system, which is there to manage the economy—why not let it work?" Says American Brands' Alley: "Sometimes the more government does to change the course of the economic cycle, the greater the problems in the future." Most succinct of all is William S. Lee of Duke Power Co.: "The less Washington does, the better."

Despite the pain, the stress, and the uncertainty, several CEOs declared their enduring faith in the American economy and in its ability to struggle back from recession—even a lengthy one, should that be the case. Says American Brands' Alley: "My glass is half full. We expect a record year in 1991. I don't think the U.S. is going to hell in a handbasket, and I believe American industry will emerge stronger than ever from this recession." Adds AIG's Greenberg: "Many before said the thing we have to fear most is fear itself. We should have confidence in the future. This is a great nation!" F

Q A **Do you approve or disapprove of President Bush's handling of the national economy?**

Approve	31%
Disapprove	62%
Not sure	7%

Q A **What should Washington consider to help get the economy moving?**

	Yes	No	Not sure
An investment tax credit	82%	18%	
Expansion of IRA eligibility	74%	24%	2%
Extra public works projects	49%	49%	2%
Bringing back the deduction for interest paid on all new car loans	42%	57%	1%
Personal income tax reductions	35%	64%	1%
Bringing back the deduction for interest paid on new car loans for cars manufactured in the U.S.	33%	66%	1%

THE TYRANNY OF AMERICA'S OLD

By clinging to an outsize share of governmental goodies, the elderly are unintentionally forcing the nation to shortchange its young. Herein some ways to solve the problem. ■ *by Lee Smith*

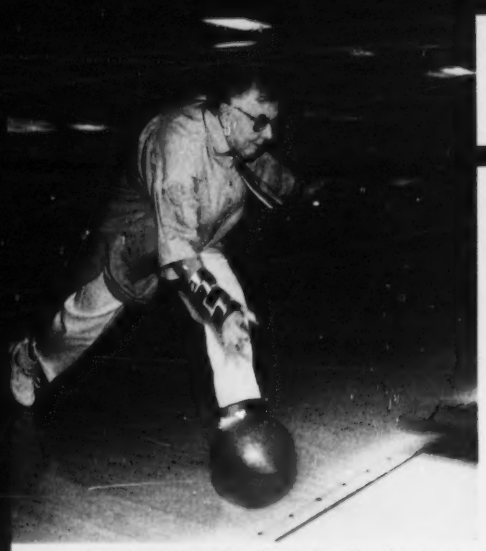
IT IS ONE OF THE MOST crucial issues facing U.S. society. But hardly a politician will even talk about the subject, much less propose remedies for it. The problem? Simply put, America is spending too much on its elderly and too little on its young. Unless something changes, that gap will only widen—with potentially devastating economic and social consequences.

You don't believe it? Here are the facts. Washington, together with state and local governments, spent just over $11,000 in 1998 on every American over 65; they spent only $4,200 on each youngster under 18. Thirty years earlier those proportions were roughly reversed. With only 12% of the population, seniors now command 54% of federal social spending, mainly through Medicare and Social Security. Last year these two programs claimed 5.6% of GNP, a share that will approach 9% over the next 30 years.

Result: In order to pay for the oldsters' Big Rest, other worthy causes, most critically investment in children, increasingly get pushed aside. Head Start, despite its impressive track record, is budgeted to reach only about one-quarter of the 3- and 4-year-olds who live below the poverty line. That means 1.5 million kids will not be able to start school ready to learn. Vaccination funds are so short that only half the 2-year-olds in Hartford and New Haven, Connecticut, have been inoculated against such diseases as measles, tetanus, and tuberculosis, a much smaller percentage than in Algeria or Uganda.

Of the $410 billion to be spent this year on Medicaid, which provides health care for the poor of all ages, about 40% will go to those over 65. The taxes on wages that

Geezers in gear: Seniors, like these Power Riders of Sun City, Arizona, don't look like Hell's Angels. But they can sure scare the folks in Washington.



They bowl, they bike, they help police the streets—and, kids, don't let the sun set on your heads in Sun City. No one under 19 is allowed to live there.

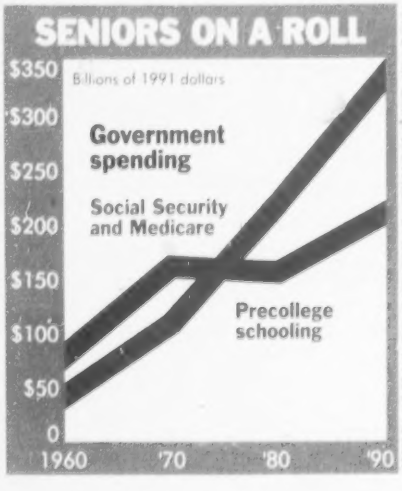
pay for Medicare and Social Security, moreover, leave less money in workers' hands for states and local governments to tap for schools. In almost half the local elections in New Jersey last year, voters rejected the school budgets. Holyoke, Massachusetts, laid off one-third of its teachers after the city's elderly whites refused to dig deeper to underwrite schools filled largely with Hispanic children.

A work force cheated of protein when it is young won't have the muscle required when it matures to keep the economy rolling. That's especially worrisome since today's kids will one day have to feed and nurse an unparalleled army of oldsters—the 76 million baby-boomers born between 1946 and 1964. This crowd begins to hit retirement age in 20 years. By then there will be just 28 workers around to support every ten pensioners on the golf course, down from 33 workers who share that burden today. Will the toilers simply refuse to pay the greens fees? They well might.

If war between the generations does break out one day, Fort Sumter is likely to be a stretch of reclaimed desert northwest of Phoenix. On one side of a dry gulch misnamed the Agua Fria River lies Sun City, a glistening community of 46,000 retirees. No one under 19 is allowed to live there. On the other side is El Mirage, a dusty village of 6,000 or so farm workers.

To lower its property taxes, Sun City withdrew a decade ago from the school district that instructs El Mirage's children. Meanwhile, the federal government continues to pluck $5.60 for Social Security checks and another $1.45 for Medicare from every $100 that the farm workers of El Mirage earn in the onion and cotton fields, plus a matching amount from their employers. Those dollars scamper over the Agua Fria to Sun City, where they support, among other things, gleaming Boswell Hospital. It dominates the cityscape like a cathedral over a medieval town, but El Mirage residents rarely use it, except in occasional emergencies. "A woman delivered a baby here one night," recalls a Boswell volunteer. "There wasn't a diaper in the whole place."

How has a country that used to be accused of spoiling its kids become so recklessly generous with its declining generation and foolishly stingy with its rising one? Management consultant Peter Drucker, 82, blames geriatric avarice: "We are the greediest class in human history." That charge is clearly unfair to many individual elderly. But it accurately characterizes the political stance adopted by Washington's powerful gray lobbies, which take the view that any age-related benefit, once granted, can never be taken away. And when the elderly speak, timorous politicians listen. They know that a high percentage of the old vote—50% more than those age 34 or less in the last presidential election.



True, the programs for the old that now tyrannize Washington were originally launched to address real needs. "'Old,' 'poor,' 'frail,' and 'deserving' used to be synonymous," notes Robert Binstock, a gerontologist at Case Western Reserve Medical School. "So when the New Deal created the old age welfare state, we exempted the elderly from screenings based on need."

EVEN TODAY, plenty of old folk remain desperately poor, as defenders of the status quo are quick to point out. Etta Ruple, 77, resides in the Luxor Mobile Park, off U.S. Highway 41 in Sarasota County, Florida, and a long way from the opulence of the ancient Nile. On a recent afternoon she sat in her 12-by-30-foot trailer, aluminum crutches at her side as she indifferently munched a grilled cheese sandwich and Jell-O. "If I were to die today, I wouldn't fight it," she says.

A dozen hip operations have shortened one of her legs by six inches and left her in pain. Mrs. Ruple started working as a hairdresser at 14 and during an active business career owned in succession a couple of grocery stores and several cocktail lounges in the Midwest. Her husband, a tool-and-die maker, died shortly after they moved to Florida in 1968. She managed the mobile home park until her crumbling hip crippled her. "We had some money when we came here, but when you're in the hospital as often as I've been, you go through it, even with Medicare," she says. She lives on a $600-a-month Social Security check, and for her the rise in the cost of a macaroni and cheese dinner from 99 cents to $1.39 over the past three months has been a significant economic event.

But now the deserving elderly poor like

REPORTER ASSOCIATE *Suneel Ratan*

PHOTOGRAPHS BY ALON REININGER—CONTACT

The old have lots to give: Bennie Mohown, 67, helps Leshawn Mathis, 12, in Hartford, Connecticut.

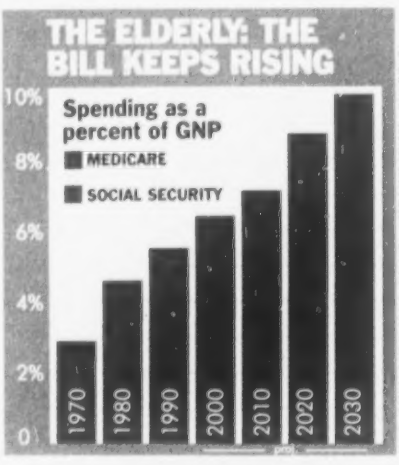
Mrs. Ruple are a minority. The cure has worked. Since 1960 the number of seniors below the poverty line has shrunk from 35% to about 12.2%. That's slightly less than the 13.5% of the total population who qualify as poor—and considerably less than the 20.6% of those under 18 who are poor.

THOSE WHO would continue to tie benefits to birthdays must also acknowledge the existence of places like Longboat Key, an island of graceful fairways and handsome homes off Sarasota's coast, and just a few miles away from Etta Ruple's trailer. "There's no recession here," says Mayor James Brown, 70, a retired newspaper executive. Brown and his wife, Marjorie, sold their house in Ann Arbor, Michigan, for exactly the $65,000 they paid for their home in Longboat Key. They get along comfortably on a total income of just $29,000 a year.

"It's amazing how well you can live once you've put your three kids through college and have no mortgage," says Brown. "These really are the golden years." On Longboat Key the major domestic issue is whether guests at the hotel have the same rights as homeowners in reserving tee-off times. Elderly dandies at the Posh Nosh restaurant banter about the delights of Hawaii in March.

James P. Durante, 77, who lives in a $400,000 condominium in Longboat Key, resembles Etta Ruple of Luxor Mobile Homes only in age and a lifetime of hard work, in his case as a partner in the New York City law office of Fulbright & Jaworski. Like Mrs. Ruple, he pays just $380 a year for Medicare insurance. He's in pretty good health, so he doesn't use it often.

Because he waited until he was 70 to retire, Durante receives an extra-large Social Security check of $1,700 a month. "I'm overpaid tremendously," Durante maintains in a lively voice that retains the gravelly sound of his native Brooklyn. "In a couple of years I got back everything I ever put into the system." Durante is not a selfish man. He and his wife, Joan, give away time and money to local theater groups, the symphony orchestra, and other good works.



BUT A SYSTEM that continues to award windfall returns to the well-to-do cannot be sustained without placing a crushing burden on younger generations. Start with Medicare. General tax revenues and nominal premiums from the elderly pay doctors' bills. A 2.9% tax on workers' wages up to $130,000 covers hospital expenses. Even so, rapidly rising hospital costs are going to overwhelm Medicare by 1995. At that point Congress may have to notch up the payroll tax once again.

Social Security's pension expenses will be manageable for a while longer. The combined employee and employer contribution of 11.2% of payroll (which is in addition to the 2.9% for Medicare) should generate some $290 billion this year. That's more than enough to mail out checks to Durante, Ruple, and 25 million others, pay for a 3.7% annual cost of living increase, and still generate a surplus of $60 billion in 1992 alone. In turn, the Social Security trust fund will lend this excess to the federal government to cover everything from interest payments on the national debt to crop supports and AIDS research. In exchange the Treasury gives Social Security IOUs, which some commentators continue to confuse with cash that tomorrow's old can live on. In reality these are merely more debts, accruing interest at 8% or more a year, which future taxpayers will have to make good on.

From the beginning Social Security has operated as a pure transfer payment. This arrangement was painless as long as the ranks of the retired were thin. When Ida Fuller, the first beneficiary, left her job in 1940, she had paid a total of $22 in FICA taxes, matched by the Vermont law firm for which she was a clerk. She lived long enough to collect $20,000. In Ida's days of leisure 42 workers toiled for every retiree.

Skip ahead to 2030 when nearly all the boomers have quit their jobs. The ratio of workers to retirees will have sagged to 2.4 to 1, a staggering weight on both the employed and their employers. On average the 65-year-old retiring now will receive in his first year 42% of what he earned in his last year on the job. To bankroll pensions and hospital care at the current level after baby-boomers retire, tomorrow's workers may

have to give up 12% of their salaries—and employers will have to match that contribution. "Employers are going to be forced to trim labor forces drastically," predicts Stephen Entin of the Institute for Research on the Economics of Taxation. "This could cost the economy 15 million jobs."

At best, those now under 30, the baby-busters, will get no more out of Social Security than the amount they contribute. That's a far cry from current retirees' deal, a shortchanging young people sense even without working through the numbers. Polls indicate that 70% of those under 30 believe that Social Security's treasury will be empty by the time their turn comes. Says Douglas Coupland, 30, author of *Generation X*, a novel about disaffected youth today: "The last penny will be spent on a jewel-encrusted stereo system for Robin Williams's walker."

What America needs now, before the cold war between the generations heats up, is a major rethinking of the social compact between the old, mid-liters, and the young. Here are a few modest reforms that should protect people like Etta Ruple, deal justly with James Durante, and still ensure that the kids of El Mirage and other youngsters get a fair shake.

■ **Encourage more links between the old and the young.** Local real estate agents do not want to hear that Sun City, Arizona, and its nearby companion, Sun City West—rows and rows of suburban ranch houses that sell for $50,000 up to $200,000—are "retirement communities." No, no, they insist, these are "active adult communities."

They have a point. Though few of the residents still have paying jobs, most stay very busy enjoying the 18 golf courses, 64 bowling alleys, 79 pool tables, and ten arts and crafts workshops. Some even pick the palm-lined streets clean of trash. Hundreds volunteer at Boswell Hospital. Others join the Posse, a civilian patrol that keeps an eye out for crime and reports suspicious activity to the county sheriff's office.

Still, these healthy, civic-minded folks could extend even more generosity beyond the white stone wall that surrounds their community. Those on the other side are inclined to see them as selfish and bullying. Tom Patterson, Republican leader of the Arizona Senate, points out that because such a large percentage of the elderly vote, the two Sun Cities dominate all three of the legislative districts they are part of. "For them taxes are the No. 1, 2, and 3 issues," he says. The state ranked 34th in the nation in spending per school pupil in 1989.

Elderly people on fixed incomes are understandably worried about rising expenses. But they have plenty of free time to give away. Troubled children in particular take readily to old mentors, maintains Ellyn Neises, a criminal justice specialist at the Clark Foundation in New York City. Middle-aged advisers seem to remind the kids of police and authoritarian parents.

Some Sun City residents do volunteer. Roy Fritz, 76, an entomologist formerly with the Public Health Service, spends every afternoon at El Mirage Elementary, one of the institutions Sun City officially divorced when it voted itself out of the school district.

Fritz teaches math and reading to gifted students. "The people who didn't do much in life and don't do much in retirement are those who pass away first," he says. Several dozen other Sun Citizens tutor at least a couple of times a week. Around the country thousands of elderly, people like Bennie Mohown, 67, of Hartford, who has worked with disabled and chronically ill children for the past three years, also extend a hand to the younger generation.

THE KID GAP

Per capita government spending in 1990

El Mirage and schools like it could use many more volunteers. "We're not looking for crossing guards," says superintendent Frank Galas, 51. "The people of Sun City have a lot of talent: lawyers who could take over our legal work, computer specialists who could teach skills to our high school students. I want to make a deal with them. If they will teach our students during the day and find them jobs, I will keep these kids from robbing their homes at night."

■ **Delay the retirement age.** By stipulating that people qualify for Medicare and full Social Security benefits at 65, Washington has made that the beginning of old age. But the biological clock tells a very different time. People who have been healthy most of their lives generally don't begin to decline rapidly until their late 70s. Only 1% of 65-year-olds suffer from Alzheimer's, for example, whereas at least 20% and perhaps as much as 40% of those over 85 suffer from the disease. Treating both age groups the same is like mothering teenagers as though they were toddlers.

Already Congress has voted to shift the age of eligibility. Today's 35-year-olds will have to wait until they're 67 for full Social

Roy Fritz, 76, tutors elementary school students like Niqui Goodloe in El Mirage, Arizona.

Security benefits. That's the right idea, but it doesn't go far enough. The payout should be structured to encourage people to stay on the job until they are 70. With more older workers paying into the system and fewer taking out, Social Security would be billions of dollars richer.

■ **Slow Social Security increases.** A dismayingly complex formula determines starting pay for the rookie retiree. Social Security not only computes his lifetime earnings but gives credit for growth in wages over his working years. Say he made $250 in January 1962. Wages have soared by a factor of five since then, so $1,250 goes into the equation for that month.

But suppose the formula were based on price increases instead. Prices have only quadrupled since early 1962, so $1,000 instead of $1,250 would be the January 1962 entry. Assuming that wages in the future grow faster than prices, Social Security could save still more billions. Each new class of retirees would start off better than the previous year's but not by quite so much.

■ **Tax wealthy retirees.** Should Social Security checks be restricted to the needy and denied to society's successes? "I'd scream breach of contract," says Durante of Longboat Key. Eventually the payouts may become such a burden on future workers that the benefits will have to be reserved for the poor. In preparation for that day, baby-boomers should start now to save more on their own and think of Social Security as fire insurance, collectible only if their nest eggs get fried.

At the moment, means-testing Social Security is such political dynamite that no politician who hopes to stay in office dares to embrace it. The prudent course is to increase the income taxes of Durante and his cohort. Currently retired couples with a total income of less than $32,000 pay no tax on their Social Security checks. Those above that ceiling pay taxes on half of what they receive. The well-to-do ought to pay taxes on 85% of their Social Security income. (The exempt 15% represents roughly what recipients have paid into the system over the years.)

Also, just as higher-paid employees at many corporations are required to foot more of the bill for their health insurance, the wealthy could afford to pay higher premiums and absorb bigger deductibles for Medicare. The Bush Administration reportedly will recommend in its next budget that annual premiums for those with incomes over $125,000 be lifted to about $1,200, more than triple what they now pay. Still, with Medicare's hospital fund headed into deficit by 1995, that's far too modest. Drop the ceiling to $50,000 and raise the premiums for the top earners even higher.

One Foot in the Grave: a Sun City rock band whose members are all golden oldies

■ **Consider rationing health care.** Medical machinery and drugs developed to restore health are sometimes misused to drag life on. For example, a 90-year-old man with Alzheimer's disease so advanced that he doesn't know where he is much of the time suffered a heart attack and collapsed not long ago. Doctors at New York City's Bellevue Hospital revived him and suggested to his son that they could insert a pacemaker, a procedure that costs $16,000. But why? Won't he ever be allowed to die?

Daniel Callahan, 61, director of the Hastings Center, a research institute that muses on medicine and ethics, points out a philosophical contradiction that is peculiarly American. "We are taught that death gives meaning to life," Callahan observes. "Yet our doctors refuse to acknowledge any disease as a legitimate cause of death." Europeans are more resigned to their mortality. British doctors decline to prescribe expensive kidney dialysis for patients over 50.

Perhaps Medicare should put age limits on major surgery, such as $40,000 coronary bypasses, and exotic drug regimens, such as treatments for septic shock that run $3,000 a dose. Those who might want damn-the-cost-keep-me-alive intervention after the age of 75, say, would have to start buying insurance to cover the heroics in their 40s or 50s.

Compared with other tyrannies that the U.S. has successfully bested, breaking the tyranny of the old seems relatively painless. Most of the reforms above would barely pinch today's elderly because they are intended to control future benefits. For their part, boomers who want to reserve a few decades on the fairway for the end of their lives can do so, if they are willing to sacrifice and start saving more. The real challenge: to reset attitudes and reapportion money so that today's children have the same chance for success and prosperity as the generations that have recently gone before them. F

Still, as Abe Cohen knows, walking the dog just isn't the same at 81.

THE GREAT PENSION ROBBERY

States and cities are plundering employee pension funds to ease their budget crises. Taxpayers may be stuck if the plans can't meet their future obligations.

■ *by Alan Deutschman*

WHILE BANKS, S&Ls, insurance companies, and nearly everyone else in the financial services industry has a case of the shorts, America's public employee pension funds have an embarrassment of riches. And like a lot of wealthy folks, they are becoming the victims of holdup artists. With ever more states and cities facing nasty budget deficits, the politicians who run them are trying to grab some of the $878 billion set aside to pay for the retirement of teachers, firefighters, police, sanitation workers, and other public employees.

The pilfering of the golden nest eggs is alarmingly widespread. In the past two years more than a third of the states have cut or delayed contributions to their pension funds, seized money outright from pension accounts, or begun to debate similar measures. This is no time to be confiscating pension assets. While contributions have fallen slightly over the past three years, payouts to pensioners have been rising sharply (see chart). As a result, cash flow—the difference between annual contributions and benefits paid over the year—has narrowed for the public funds, to $6 billion from $16 billion. According to Chris McNickle of Greenwich Associates, a research firm that compiles data on pension funds, the gap could shrink to $2 billion or less by the end of 1991.

The immediate victims of any cut in contributions or attachment of assets are the public employees whose retirement funds are being raided. But taxpayers may be on the hook too: They could have to make up the difference if, thanks to the raids, public plans lack the wherewithal to pay retirement benefits in the future.

The most egregious assault on pension funds occurred in California last summer. As the July 1 start of the fiscal year neared, Republican Governor Pete Wilson was staring at a $14 billion budget deficit. So to help make ends meet, Wilson decided to take $1.6 billion from the coffers of the $63 billion California Public Employee Retirement System. Known as Calpers, the fund covers most state workers except teachers, who have their own plan. Wilson also tried to replace the 13-member Calpers board with a new nine-member group that he would control. Dale Hanson, the system's irate chief executive, called this scheme a "hostile takeover."

The backlash against the governor came immediately. State employees blocked the driveway to the capitol's garage to protest looting the fund and packing the board, and they overwhelmed their representatives with calls, telegrams, and visits. Wilson threatened them with salary reductions, furloughs, and layoffs of up to 20,000 workers if they succeeded in foiling his plans. Robbery and blackmail, cried Fortney H. Stark, the liberal Democratic Congressman from Oakland. He accused Wilson of conspiring to turn workers' savings into a "giant slush fund" that would "hide the real cost of government."

In the end, the California legislature prevented Wilson from reconfiguring the board but let him have the $1.6 billion from the pensioners' cost-of-living account anyway. California's Third District Court of Appeals will decide on the constitutionality of the legislators' action by March or April.

The Illinois Supreme Court is hearing a similar case. As the hot Springfield summer wore on, Illinois legislators, anxious to adjourn, were desperately hunting for money to comply with the state's balanced-budget requirement. Rather than making tough choices, they told Republican Governor

Tap the funds: California Governor Wilson hit the state pension plan for $1.6 billion to patch his budget.

Jim Edgar to take up to $50 million from the state's 250 "special funds," which under the law must be spent on specific purposes like schools, roads—or pensions. Edgar seized $21 million from the five state retirement systems, making no promise to repay the money, and used it to shore up the general-revenue account. A court ruling on the constitutionality of this move is expected soon.

The Illinois snatch is particularly nasty because the public employee pension plans, unlike Calpers, were underfunded to start with. Assets covered only 46% of the present value of projected obligations for judges on up to 65% for teachers. By comparison the national average for public retirement systems is around 80%; private pensions, which are subject to the tough Employment Retirement Income Security Act rules, must strive to be fully funded. Ironically, Illinois passed a law in 1989 requiring itself to push toward full funding of its public plans by 1996, and then fell short by a total of $500 million in employer contributions in 1989 and 1990.

Not so fast: New York comptroller Regan says pension assets should not be used for budget balancing.

MOST ATTEMPTS to siphon money out of public employee pension funds are far more subtle than those in California and Illinois. Typically a city or state will play around with actuarial assumptions on which the funding and the investment objectives of its plan are based to reduce the contributions required. Here's how this works: With the help of historical tables on life expectancies, inflation rates, and so forth, actuaries determine how much money a pension plan will need years from now in order to pay benefits to future retirees. This work requires developing complex forecasting models based on an array of assumptions. For example, how much will salaries increase? Will employees opt for early retirement in ever greater numbers?

One of the most crucial projections is the annual rate of return on the pension plan's invested assets. The power of compound interest means that a seemingly small improvement in annual returns—say, 8.25% vs. 8%—adds up to a lot over 25 or 30 years. Thus, a marginally higher projection for the rate of return means that an employer can drastically reduce the sums it must put into a plan. A basic rule of thumb: If you increase the expected rate of capital appreciation by one percentage point over 30 years, an employer can cut its current contributions to the fund by 20%.

Louisiana saved $11 million last year in contributions to its teachers' retirement system by upping the projected return from 7.5% to 8.25%. Missouri netted some $20 million by going from 8% to 8.5% last year on its state employees fund. New York City boosted its rate-of-return assumption for city employees from 8.25% to 9% in the winter of 1990, which saved $40 million for the Transit Authority alone and enabled it to hold bus and subway fares to $1.15.

Years from now, if the projections for investment returns turn out to have been too optimistic and the plans no longer have enough money to pay benefits, the politicians who instigated the changes will no longer be in office. Taxpayers could well be stuck writing the monthly pension checks for legions of retired civil servants. But it is difficult for employee advocates to fight these changes because actuarial math does not make for vivid public debate. Depending on the full set of assumptions—salary and payroll increases, early retirement, retiree mortality—a range of returns could be deemed reasonable to provide sufficient funding for the future. In 1989 the targets used by public retirement systems varied from 5.5% a year to 9%, with 7.8% as the mean.

Clearly, 5.5% is too conservative. And, granted, a shrewd outfit like Calpers earned a hefty 12% annually over the last half of the Eighties. But is it so certain that the historic 1980s run-up in stock and bond prices will be repeated in the Nineties and beyond? Hot decades for stocks are usually followed by cool decades, and corporate pension managers certainly haven't rushed to increase *their* projected returns. Most recent adjustments in public-fund contributions bear the unmistakable mark of the worst kind of politics. In a fall 1991 survey by *City & State* newspaper, 11 out of 28 of the largest funds said their actuarial assumptions were adjusted upward over the past two years, many in response to political pressure.

TEACHERS, the beneficiaries of several of the largest pension systems, have been especially hard hit by political shenanigans. In 1990, New York State, facing a $3 billion deficit, withheld $850 million of contributions to teacher pensions. By switching to a new way of calculating the funding, California is reducing payments to its teachers' retirement system for ten years, including a $400 million cut this year, while planning to make up for the shortfall through sharply higher contributions after 2001. Talk about passing a burden to future generations!

Texas is reducing contributions to teacher pensions by $85 million over the next two years, boosting the system's unfunded liability to almost $4 billion. The state comp-

REPORTER ASSOCIATE *Mark D. Fefer*

troller has even tried to wrest control over state pensions from an independent board and give it to a committee consisting of the governor, lieutenant governor, and—you guessed it—the comptroller himself.

THE QUESTION of whether pols have the right to put their hands in these cookie jars begs a more fundamental question. To whom does the public employee pension-fund money really belong? The answer: to the beneficiaries and to no one else—not to the state or to the public at large. A pension fund's assets represent deferred employee compensation and thus constitute private property. Pension trustees are the the guardians of this property.

But the trustees are often appointed by elected officials or must run for office themselves, so they are apt to give in to pressures that allow the funds to serve political objectives at the expense of the pensioners. Wrongly so, argues Edward Regan, New York State's Republican comptroller and sole trustee of the state's $44 billion retirement system: "Do public officials have a right to use pension fund assets for budget balancing and other government purposes? The answer is a clear no." Regan, however, is at odds with Governor Mario Cuomo, a Democrat, who is eager to have pension funds make investments for the purpose of enhancing the economy of New York State.

In bona fide fiscal emergencies, the enlightened self-interest of current employees and retirees might dictate lending some pension plan assets to their imperiled employers. Otherwise, the bankrupt state or city might not be able to pay benefits to its retirees at all—and might have to fire large numbers of government workers. New York City's pension funds invested in municipal bonds as part of Gotham's mid-1970s rescue. But the trustees were able to demand a 9% rate of interest, several percentage points higher than the prevailing rate for tax-exempt issuers. They also received federal guarantees of repayment and special immunity from their fiduciary obligations that would normally prevent them from investing in a related party or one with a poor credit rating. The arrangement clearly worked out well for the city and for the pension funds.

Detroit essentially copied the New York example during its financial crisis of 1981. So did Philadelphia in 1991. Its credit rating having fallen below investment grade, Philadelphia could not continue its annual practice of selling short-term tax-anticipation notes in the fall and paying them off in the spring when tax revenues flowed in. So the city turned to its pension funds in January for $37.5 million in loans as stopgap financing. The pension trustees, serving as lenders of last resort, exacted a brutal toll: the prime rate plus fees equaling around 2% of the principal. The city paid off the loans by April 15, giving the pension funds an annualized return of 27%. Without that exceptionally high return, the fiduciaries would not have been able to justify the risk.

J. Chester Johnson, president of Government Finance Associates, a New York City consulting firm, advised Philadelphia on the transaction. In his previous job as a Deputy Assistant Treasury Secretary, he oversaw the federal government's loans to New York City in the 1970s. He says that governments should consider borrowing from pension funds only in "desperate circumstances." Such cases would include helping out a municipality close to bankruptcy or an issuer that had lost its investment-grade rating and had dire cash-flow needs with no access to capital markets.

Does either of these circumstances fit California, the eye of the current storm? It is hard to believe Governor Wilson, who justifies the pension raid as "urgency legislation," when he argues in his brief to the court of appeals that California's fiscal crisis threatens the state's "ability to provide and fund for essential services." Although recently downgraded by Standard & Poor's, California still has that coveted triple-A credit rating from Moody's. It all goes to show that politicians will say almost anything to get their mitts on somebody else's cash.

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JANUARY 27, 1992 VOL. 125, NO. 2

FORTUNE

"We rise as one nation and we fall as one, depending on the quality of the work force."

PAGE 40

CORPORATE PERFORMANCE

HUGHES AIRCRAFT: A MASTER OF THE MEGILLAH 80

Its software engineers have become adept at wrestling with some of the most elaborate systems around. This company's tips on managing complexity are valuable. *by Thomas A. Stewart*

MONSANTO: LEARNING FROM ITS MISTAKES? 81

Its new formula for converting laboratory discoveries into marketplace successes: Focus spending on a few promising projects and team up at the outset with customers. *by Ronald Henkoff*

ELIZABETH ARDEN: PROFITING BY PERSEVERANCE 84

Despite being passed from hand to hand, it stuck to its overhaul plan to become the fastest-growing prestige (read expensive) cosmetics company in America. *by Faye Rice*

ABOVE: Robb Kendrick (Contact) photographed this roundtable of "outplacement" clients, held weekly by Drake Beam Morin in Dallas.

COVER: Tom Dietrich (AllStock) caught the brooding temper of the coming decade on this road north of Cheyenne, Wyoming.

1990s SURVIVAL GUIDE/COVER STORIES

PREPARING FOR LEANER TIMES 40

Expectations are lower and anxiety is higher as everybody worries about his job. Maybe it's time to play down money, and emphasize values instead. *by Brian O'Reilly*

WHERE MANAGERS WILL GO 50

The great management sweep-out won't stop anytime soon, forcing millions to rethink careers. The most successful are finding new niches born of change. *by John Huey*

THE BABY-BOOMERS' LATEST WHINE 56

On finding that all the rules have changed.

WHAT OUR KIDS MUST LEARN 64

Educationally, we demand too little, even of our brightest children. Here are ten kinds of knowledge they've got to have to compete in a tougher world. *by Kenneth Labich*

INVESTING FOR A NEW FUTURE 68

The 1990s are casting a chill over financial plans. Looking at real estate, stocks, and bonds, you must be bold. *by Brian Dumaine*

THE VALUES WE WILL NEED 75

By itself, our vaunted individualism won't get us through the decade ahead. But how do we achieve a renewed commitment to the community? *by Brenton R. Schlender*

"We're still in the early innings of a growth-stock resurgence that will dominate the 1990s."

PAGE 27

"Our leadership challenge of the 21st century is to recalibrate people to global standards of play."

PAGE 50

"Our bright kids don't know enough. We are expecting too little from them—and they are living up to that expectation."

PAGE 64

"The bottom line should include whether you improved your community—not just your profit."

PAGE 75

"Every scab-hiring, union-busting employer will know that working people have a friend in the White House."

PAGE 88

"There is no problem lending to the best companies. The credit crunch affects the lower end of the acceptable credits."

PAGE 100

CORPORATE PERFORMANCE

COMPANIES TO WATCH 87

POLITICS & POLICY

WHAT THE LEADING DEMOCRATS WANT 88

On the No. 1 issue—the U.S. economy—the candidates' prescriptions differ in important ways. They tell us their plans for taxes, spending, and the trade deficit. *by Ann Reilly Dowd*

INVESTING

THE BEST & WORST STOCKS OF 1991 92

It was a surprisingly good year, given the economy's woes. Top honors go to small stocks, which launched a major bull market. *by Karen Nickel*

A HOT YEAR FOR WORLD MARKETS 96

TECHNOLOGY

TECHNOLOGY TO WATCH 99

THE ECONOMY

VICTIMS OF THE CREDIT CRUNCH 100

Lending officers are scared. Banks are passing the word: Don't come to us for a loan. Here's how borrowers are coping—and how the squeeze saps the recovery's strength. *by Gary Hector*

MONEY & MARKETS

DEALS OF THE YEAR 104

Equity comes back: Leverage-laden issuers wanted to pay down debt just as stock-starved investors were wearying of puny T-bill returns. FORTUNE lists the top deals of 1991. *by Anne B. Fisher*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12

Navigating computer industry alliances, the return of the G-thing, the recession thaws at ski resorts, more benefit cuts loom, car cards—a va-rooming collectible, Soviet cops nab grave robbers, and more.

FORTUNE FORECAST 21

Where are business prospects best in the U.S.? Almost anywhere outside the Northeast, which will continue to lose workers and companies to the benefit of the South and the West. FORTUNE's economists analyze the outlook for seven major regions. *by Joseph Spiers*

Economic Intelligence: An expert contends the slump is over, and why economists miss the mark.

PERSONAL INVESTING 27

After the Dow's startling rally, which stocks look most promising now? *by Andrew Evan Serwer*

Also: Portfolio Talk with John Dale of Peregrine Capital Management.

LETTERS TO FORTUNE 35

BOOKS & IDEAS 113

Four of the year's best management books, while not exactly breakthrough treatises, should help you look ahead, perfect alliances—and please customers. *by Brian Dumaine*

KEEPING UP 115

The mentionables, pirates with cellular phones, and other matters. *by Daniel Seligman*

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EDITOR'S DESK

Writer Brian O'Reilly at home with one of his golden assets

JANUARY is a time for planning ahead, but maybe you skipped making resolutions this time around because you don't think there's much you *can* do to make 1992 a better year. You might even be starting to wonder whether you're going to live better than your parents did.

FORTUNE offers some help in the form of a survival guide. With two years down and eight to go, the Nineties look like a tough decade. The way to begin confronting that possibility is by gathering the facts. Says assistant managing editor Walter Kiechel, who put together our special report: "You already know the Nineties will be different. We give you information that may help if you want to make changes in how you manage your career, educate your children, invest your money."

FORTUNE often tracks trends in careers, personal investment, education, and other areas that affect how we live and work. With worry in the air, the time was ripe to tie those subjects together. Kiechel enlisted a cadre of writers to question the statistics behind the recent feelings of gloom—and the people behind the statistics. What they found touched many of their own concerns. Says Kiechel: "A lot of these stories are from the heart."

Associate editor Brian O'Reilly set out to write the introduction with personal as well as journalistic questions in mind. At 43, he has the typical middle-class attachments (one spouse, three children ages 2 to 10, one golden retriever, one well-mortgaged house) and the usual middle-age concerns: "I wonder if I'll be taking out a $300,000 loan at age 59 to send my third kid through college."

The issues hit home for senior editor John Huey when he recently attended his 25th high school reunion in Atlanta. Says Huey, who wrote about where managers will find work in the new age: "I met very bright, very ambitious friends who'd been climbing the corporate ladder and were now off the ladder or about to be off it. I wondered where they were going to go."

While people may have to adjust their expectations, there are ways to cope, and even thrive, particularly if you keep an open mind. "Fear is an impediment to moving on," Huey says. "So is bitterness and hopelessness. Flexibility is the key." Associate editor Brian Dumaine tapped the knowledge of financial planners to uncover new strategies for saving and investing. Ken Labich of our board of editors tells how to invest in the future in a different sense in his story on what your children must learn. And San Francisco bureau chief Brent Schlender takes a new look at American values and concludes we must balance our individualism with a renewed interest in the community. Maybe it won't be such a bad decade after all.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Publishing Issues (combined issues are published in parentheses) are published biweekly except monthly in January, February, March, April, May, June, July, August, September, October, November, December by Time Inc. Magazine Company, Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Second-class postage paid at New York, NY and additional mailing offices. Subscription rates: U.S. $49.95, Canada $69.95, all other countries $75.95. Subscription price per issue: $3.75. Single issue rate: $4.00. Publication Mail Agreement No. 1669537. Return undeliverable Canadian addresses to: FORTUNE, PO. Box 30604, Tampa, Fla. 33630-0604. Printed in the U.S.A. Postmaster: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Phone: 1-800-621-8000. Foreign Offices: Time & Life Building, New Bond Street, London W1Y 0AA, England. Time & Life Building, 1 Rue Pierre Plasson, 75007 Paris, France. Time & Life Building, Neue Mainzer Strasse 52-58, 6000 Frankfurt am Main 1, Germany. Time & Life Building, 2-1 Shibaura 4-chome, Minato-ku, Tokyo 108, Japan. Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Time Inc. Magazine Company,

VAROOMING COLLECTIBLE: CAR CARDS

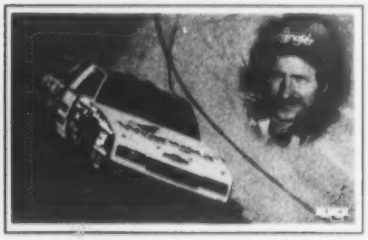
■ If you can't afford the wheels of your dreams, maybe a picture will do. Since 1988, sales of collectible auto cards—the vehicular equivalent of baseball cards—have risen from $700,000 to $50 million, at least according to the people who sell them.

One of the pack of small private companies making the cards: **Collect-A-Card** of Greenville, South Carolina, founded in 1990 by Neil Connor, 49, a former sales rep for **Steinway**, and his brother, John, 57, a retired postal clerk. Their cards show Corvettes, Thunderbirds, Mustangs, and other muscle cars.

Neil and John Connor with their wheels

Some cards are collected for the racing drivers they portray, like stock car champ Dale Earnhardt, shown below in a 1986 SportsStar series. You could buy three for $1.25 back then. Dane Turner, a former Shearson broker who now edits *Racing Collectibles Price Guide* for car-card collectors and who has an obvious interest in talking up these babies, estimates their value today at $500 each. Still peanuts compared with $451,000 a collector paid last March for a circa 1910 Honus Wagner baseball card, though that market has softened considerably. But avers Turner of car cards: "We're an enormous sleeping giant." **– Rick Tetzeli**

Would you pay $500 for this one?



Dale Earnhardt

solution: a stop at **Cabletron Systems**, the Rochester maker of computer network systems. While the Granite State wallows in 7% unemployment, Cabletron has expanded its work force 58% over the past year to 1,900 employees, making it one of the fastest-growing companies in the U.S.

Bush plans to visit Cabletron's headquarters in January to give a speech in the cafeteria and talk to the company's top managers about the reasons for their success. As FORTUNE has reported, Chairman Craig Benson and CEO Robert Levine founded Cabletron in a garage nine years ago. Sales for the fiscal year ending in February are expected to top $290 million, a 60% increase over 1991. Some 1,250 applicants showed up for 101 manufacturing positions Cabletron offered in a job fair last fall.

Employees are eagerly awaiting the presidential visit. Says marketing head Michael Welts: "This is a George Bush kind of company." **– Mark Alpert**

MORE BENEFIT CUTS ARE LOOMING

■ Another round of reductions in health coverage may be coming as corporations begin to take write-offs to cover medical benefits bills for present and future retirees. According to Richard Ostuw, a VP at Towers Perrin, a New York City consulting firm, companies will be biting an estimated $200 billion bullet for such charges. This could cut profits by as much as 20%. Even though this is an accounting change that won't hurt cash flow, Ostuw predicts corporations will try to minimize the damage. Says he: "Large companies are saying, 'If we have to look at the costs like this, we can't maintain the type of benefits that we did.'"

A handful of big corporations have taken write-offs and a few others have estimated the size of the hit they face to comply with the new accounting rule that obligates them to take such charges. To ease the blow to earnings, companies will be permitted to take a tax credit to offset retiree benefit write-offs. Example: **Lockheed**, which is in a 34% tax bracket, would get about $340 million in tax credits from its estimated $1 billion charge for retiree benefits. This would reduce the company's earnings hit to $660 million.

Ostuw believes some 80% of the biggest companies will wait until the 1993 first-quarter deadline before they take their hits. Companies can spread the write-off over 20 years or take the hit in one gulp, as **General Electric** did in 1991. That accounted for GE's restated $800 million loss in the year's first quarter. **– A.J.M.**

YOUR NEXT HOME: A GERMAN CASTLE?

■ A half-dozen castles scattered throughout what was East Germany are on the auction block. They include the sprawling Schloss Boitzenburg, located in its own 15-acre park just 50 miles north of Berlin. The main building, parts of which date to the 12th century, contains 326 rooms and includes a collection of paintings, sculptures, and other works of art, and a late-Gothic spiral staircase. The grounds contain ponds, a boathouse, a teahouse, and horse stalls. Interested? Contact Treuhandanstalt, the government agency in Berlin that is privatizing some 35,000 pieces of property the East German state once owned. Bids start at $6 million for the castle, by the way.

Boitzenburg is the ancestral home of the Von Arnim clan, descendants of the 19th-century romantic poet Ludwig Joachim von Arnim. The Soviets confiscated the place after World War II. The East Germans took title in 1949 and used it as a retreat for officers of the People's Army.

Locals in the nearby town of

RETIREE HEALTH BENEFIT WRITE-OFFS

FORTUNE Chart

Companies that have already taken charges ...	
IBM	$2.3 billion
General Electric	$1.8 billion
Philip Morris	$1.0 billion
International Paper	$230.0 million
Abbott Laboratories	$128.1 million
... and what others estimate they will write off	
General Motors	$20.0 billion
AT&T	$6.5 billion
Alcoa	$1.0 billion
Lockheed	$660.0 million
AMR (American Airlines)	$460.0 million

By Joseph Spiers

AREAS WHERE PROSPECTS ARE BEST

■ Chop the Northeast off the rest of America, and you nearly eliminate the recession in 1991. Sure, business elsewhere wasn't great—it was flat overall, with some big states like California, Michigan, and Florida hitting the skids. Falling tax revenues in many areas have spurred government cutbacks and layoffs. Still, the economies of 28 states *grew*. And with a broad recovery expected, states outside the Northeast should expand nearly 2.5% after inflation in 1992. By contrast, the Northeast, which contracted 2.6% last year, is expected to shrink another half a percent this year.

Migration of people and businesses from the Northeast will continue to benefit Southern and Western states. The Great Lakes region will gain from a modest auto recovery, higher capital equipment sales, and strong exports.

Fortune expects that the U.S. as a whole will grow a sluggish 1.5% in 1992, after declining nearly 1% in 1991. Regional Financial Associates, a consulting firm in West Chester, Pennsylvania, used Fortune's detailed national forecast to produce state-by-state predictions of output and employment. Here is a look at our seven regions, in order of their economic size.

■ **NORTHEAST.** It fell first and hardest, and will take much longer to recover. Massachusetts lost 5% of its jobs last year, on top of 4% the year before. More jobs will go throughout New England in 1992 as defense spending keeps winding down, stricken banks merge and downsize, and state and local governments contract. By late 1992 a weak recovery should begin when housing construction picks up from depressed levels and the downward spiral in employment slows.

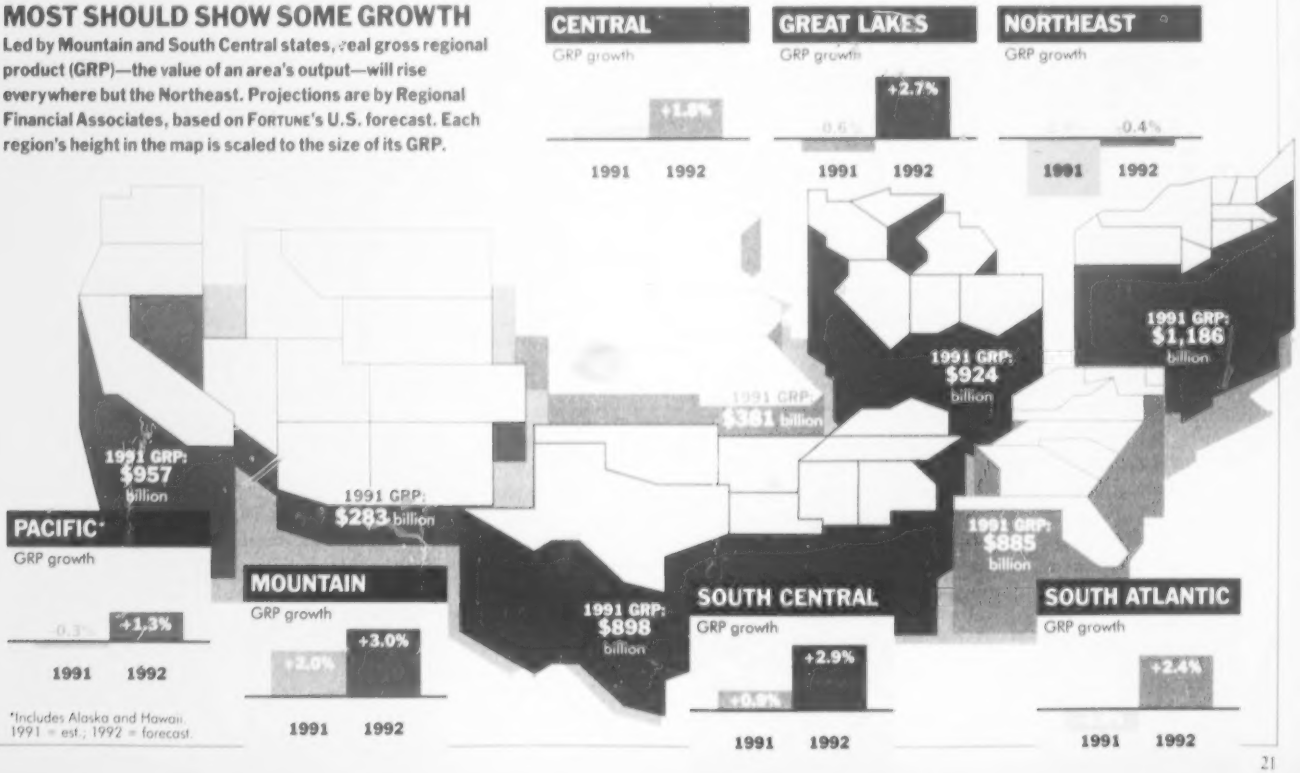
Over the past three years the New York City area has lost almost half a million jobs—40% of all those created in the booming 1980s—and the end is hard to see. The megamerger of Chemical Bank and Manufacturers Hanover will bring 6,200 job cuts, the advertising business continues to sag, and firms and residents will keep moving out.

Wall Street, the area's savior in the Eighties, is rebounding and should do well in 1992 as national recovery stokes demand for its underwriting and trading services. But unless some new rage akin to the LBO arises, it won't be strong enough to offset New York's other woes. Pennsylvania will post modest gains in employment this year as its steel, fabricated metals, machinery, chemical, and pharmaceutical manufacturers increase shipments to domestic and foreign customers.

■ **PACIFIC.** With its rising crime, congestion, regulation, taxes, and costs, California is fast becoming this decade's whipping boy. The middle class flees, replaced by less affluent immigrants; companies relocate, replaced by nothing. The economic problems include extra measures of all the usual suspects: defense, real estate, banking, budget crisis. But California still has plenty

MOST SHOULD SHOW SOME GROWTH

Led by Mountain and South Central states, real gross regional product (GRP)—the value of an area's output—will rise everywhere but the Northeast. Projections are by Regional Financial Associates, based on Fortune's U.S. forecast. Each region's height in the map is scaled to the size of its GRP.



going for it: Pacific Rim trade, high tech, entertainment, agriculture, and manufacturing diversity. The state will manage small gains in employment and gross product this year, less so than most other states but noticeably better than the Northeast.

Oregon and Washington will benefit from the California exodus. After slowing last year, growth will pick up as the nationwide housing recovery boosts demand for lumber. Boeing, which dominates Seattle employment, is still doing well even though new orders have flagged.

■ GREAT LAKES. Despite the auto slump, most of America's manufacturing belt trucked along without significant declines. Output and jobs inched up last year in Illinois and Wisconsin. Ohio's economy was flat. Indiana faltered somewhat. The life preserver keeping these states out of deep water: exports of capital goods and industrial components. Increasing productivity coupled with modest wage gains and the competitively valued dollar mean further export gains in 1992. As the national recovery takes hold, domestic markets for industrial equipment should also turn up.

The key to better performance will be about a 10% increase in motor vehicle sales from 1991's wretched level. The biggest beneficiary, of course, will be Michigan, where total output last year tumbled 3% and the unemployment rate averaged a horrific 9.4%. The auto turnaround, led by people trading in their aging vehicles for new models, will help raise the state's output by 3% and reduce the jobless rate to just over 8%.

Other states in the region, particularly Indiana and Ohio, will also get a lift from autos. Last year Ohio's diversified economy—office jobs up 2.5%, for example—offset auto-sector declines. Ohio should grow nearly 3% in 1992.

■ SOUTH CENTRAL. Texas, getting up to speed with its newly diversified economy, expanded last year by 1.3% despite declining oil prices. Give some credit to immigration of new businesses and residents, which will continue. Mexico's rejuvenation will also help as businesses develop along the border. Texas will again handily outpace the nation in 1992, growing more than 3%.

Oil will be a drag on Oklahoma and Louisiana. Yet they too will grow faster than most states because their financial and construction industries already went through the restructuring wringer after the mid-1980s' energy bust. In New Orleans the tourist business should revive as incomes grow nationwide.

Despite its troubles, California still has plenty going for it, from Pac Rim trade and high-tech industry to entertainment.

The national recovery in housing and autos will stimulate output and employment in Tennessee, home to Saturn and Nissan, and Kentucky, which has a giant GE appliance factory and Ford and Toyota plants. Arkansas, with a strong food-processing and food export industry centered on chickens, grew 2.2% last year, and looks to expand 3% this year.

■ SOUTH ATLANTIC. After climbing a torrid 5% a year on average for two decades, Florida's economy tumbled 1.5% in 1991. It is feeling the downside of lower interest rates since so many Florida retirees depend on interest income. But those lower rates will help home sales up north, allowing sun seekers to move and generating more residential construction in Florida. And easier interest payments for households everywhere will free funds for vacation travel. The Federal Reserve Bank of Atlanta says the state's advance convention bookings already look better, and international travel has rebounded.

Georgia's carpetmakers, who loom large in the state, suffered from the auto recession. The weak national housing market hurt both carpets and the important wood products industry. Eastern Air Lines' demise sent thousands of well-paid workers to Atlanta's unemployment offices. In 1992 national recoveries in autos and housing will help reverse last year's damage and lead to fiscally healthier state and local governments. Georgia is forecast to grow about 3%.

Housing and autos will also spark good growth in the Carolinas, major producers of furniture and textiles. Migration of people to these states will provide extra help. The Washington, D.C., region, in contrast, will stagnate after sinking in 1991, as defense cuts and an overbuilt real estate market continue to hurt.

■ CENTRAL. Nebraska topped the nation's growth chart last year—output expanded 3.5% and nonfarm employment 4.4%. Jobs gained strongly in construction, telemarketing, meatpacking, and farm machinery. Since residential building permits are rising, construction should remain robust. But nonresidential building is slackening, retail sales growth has slowed, and business failures are up. The state will still grow in 1992, but only in line with the rest of the country.

Agriculture should help bolster the whole region. Balance sheets, which determine how much farmers can borrow, are in good shape. Exports will get help from the relatively low dollar and from aid programs for the erstwhile U.S.S.R.

Missouri's output fell nearly a percent last year, reflecting defense and auto declines. The expected auto upturn this year will help promote 2% growth in the state's economy. In Minnesota, a vastly overbuilt Twin Cities office market knocked permits for the state down by more than 80% in value. Permits for single-family houses declined 6%. Construction employment should thus fall further in 1992. But strong health services and medical equipment industries will keep the state growing at the national average.

■ MOUNTAIN. Growth should rise to 3% this year, from 2% last, making this region the healthiest in the U.S. for the third year in a row. Its homebuilding industry, spurred by the flight from California, is the country's strongest. Single-family housing permits jumped more than 20% in Colorado and Utah last year. Even Arizona, home to an overbuilding debacle in the late 1980s, posted a 7.5% rise in one-family permits. And regional exports are booming for companies making everything from food to machinery to software. Nevada's hot growth has cooled in part because its construction industry got ahead of itself. But gambling, as well as the convention business, will improve along with the U.S. recovery.

continued

CHIEF ECONOMIST *Vivian Brownstein*
STAFF ECONOMIST *Joseph Spiers*
RESEARCH ASSOCIATES *Lenore Schiff and Lorraine Carson*
FORTUNE's forecast is produced by this magazine's economists using our own economic model.

ECONOMIC INTELLIGENCE

WHY ECONOMISTS MISS THE MARK

■ "Has Macro-Forecasting Failed?" That's the title of a timely National Bureau of Economic Research paper by economist Victor Zarnowitz of the University of Chicago. The answer is—what else?—yes and no. Forecasters have gotten steadily better at anticipating growth rates during an expansion, Zarnowitz finds. But downturns are their downfall.

Zarnowitz, 72, a leading expert on forecasting, has been following macroeconomic forecasters since the 1950s, when the craft was taking its baby steps. His newest book, *Business Cycles: Theory, History, Indicators, and Forecasting*, will be published shortly by the University of Chicago Press. (He also serves on the committee that dates U.S. recessions—see next item.)

Unexpected shocks sometimes catch the prognosticators by surprise, he says. More often, it's the gradual accumulation of stresses and imbalances that stymies them, because "it is very difficult to predict just when these phenomena will culminate." But his research also hints at a psychological component. Says he: "Few forecasters take the risk of signaling a recession prematurely, as the costs of such prediction to themselves and their customers can be quite high." In other words, the CEO would still rather err on the side of optimism than face lost sales and market share because of a lowball forecast.

Don't shoot your macroeconomist, Zarnowitz urges. While the failure to call downturns is a major problem—and one that should be at the top of forecasters' agendas for fixing—the discipline has come a long way. On the whole, forecasters provide decision-makers in business and government with essential and reasonably accurate information about the direction of the economy, and they are a good bet to keep improving. Still, Zarnowitz adds, while you wait for those improvements, stay ready to respond to unforeseen changes. – Rob Norton

THIS MAN SAYS THE SLUMP IS OVER

■ *Believe it or not, the recession the economists didn't call is history. So says Geoffrey H. Moore, and no one speaks with more authority about the economy's turning points. Moore, 77, is director of the Center for International Business Cycle Research at Columbia University. A student of business cycles since the late 1930s, he serves on the National Bureau of Economic Research committee (which he helped found) that officially dates recessions. He tells* FORTUNE*'s Rob Norton why he is confident:*

Geoffrey Moore, the dean of indicators

The pessimists are looking at measures of economic activity that don't recover immediately. Recessions don't vanish into thin air within a few weeks or months. One reason this doesn't feel like a recovery is that we are not back to where we were when the downturn began in July of 1990. But that's what happens in recessions.

I've tentatively fixed a date for the business cycle trough: May 1991. That would make the recession cover a ten-month period. And that's very close to the average length since 1940.

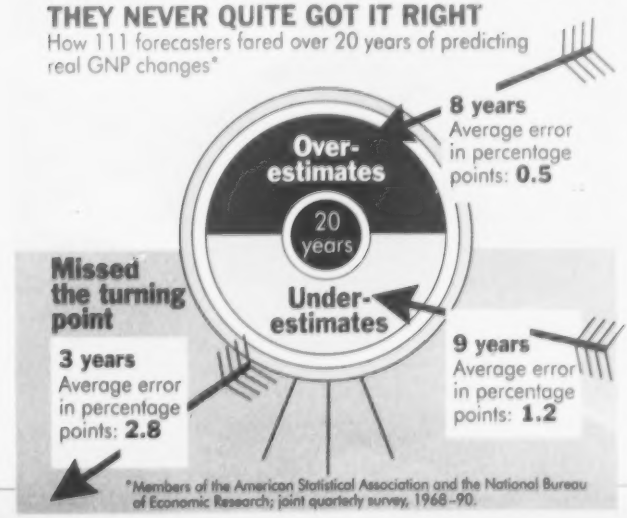
Most of the measures of aggregate economic activity, which is what we look at to identify the peaks and troughs, have been going up over the past six months, although relatively slowly. The thing that makes me think the expansion will continue is that most of the leading indexes are showing growth, and some are quite a bit stronger than the aggregates of economic activity, like total employment or real GDP. Despite a slight dip in November, the leading index published by the Department of Commerce has almost fully recovered from its decline during the 1990–91 recession.

Our center's long-leading index has been rising since January 1991 and has completely recovered from the slump it had during the recession. This index consists of indicators that have a lead, on the average, of at least 12 months before business cycle peaks and six months before business cycle troughs. They include bond prices, the ratio of selling prices to labor costs per unit of output—an indicator of profit margins in manufacturing—and the growth rate of productivity. We also have a short leading index that has indicators such as stock prices, the average workweek in manufacturing, and orders for durable goods.

Both of the indexes started to rise a little before this recovery period began and have continued to rise since. Until they start to show significant weakness, my inclination is to say that the recovery is here and is very likely to stay with us. ■

THEY NEVER QUITE GOT IT RIGHT

How 111 forecasters fared over 20 years of predicting real GNP changes*

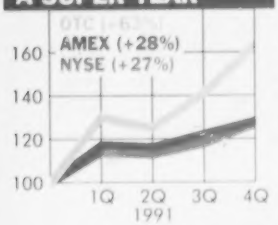


*Members of the American Statistical Association and the National Bureau of Economic Research; joint quarterly survey, 1968–90.

THE BEST & WORST STOCKS OF 1991

It was a surprisingly good year, given the economy's woes. Top honors go to small stocks, which bucked a seven-year lull and launched a major bull market. ■ *by Karen Nickel*

A SUPER YEAR



WHO ever said that recessions are bad for stocks? In 1991 corporate earnings went south, but stock prices headed north. The Dow slammed through the elusive 3000 barrier early in the year, lifted by victory in the Gulf war. The bull slowed down a bit midyear but bolted ahead at the 11th hour, powered by an interest rate cut that sent investors straight to their brokers with holiday loot. The big news of the year was the mighty showing by midget stocks. After underperforming for most of the last decade, small-cap shares (as measured by the Russell 2000 index) shot up 44%.

FORTUNE's annual ranking of the stock market's winners and losers is based on total return to investors, which includes reinvested dividends as well as changes in price. Wright Investors Service of Bridgeport, Connecticut, and Barra of Berkeley, California, compiled the lists of the New York Stock Exchange, the American Stock Exchange, and the over-the-counter markets. To qualify, stocks had to begin the year at $5 or more per share (sorry, penny-stock fans). Partnership units, closed-end mutual funds, and American Depositary Receipts are excluded. For a look at how stock markets around the world performed, see next story.

Scoring first . . . International Game Technology, cashing in on the legalized-gambling trend.

Once again companies in the health care industry made the strongest showing. But they weren't the only ones to buck recession. The bull market's handmaidens were also among its biggest beneficiaries: Seven brokerages took top performance honors.

One surprise group of winners: retailers. While many huge retailers will look back tearfully on 1991, smaller specialty outfits like **Duty Free International** and the **Gap** enjoyed bang-up returns, at the cash register and in the stock market.

REPORTER ASSOCIATE *Rahul Jacob*

NEW YORK STOCK EXCHANGE THE 50 BEST		Stock price 12/31 1990	1991	Dividends per share	Total return to investors	Comments
1	**Int'l Game Technology** (gambling machines)	$8.38	$46.00	—	449%	More gambling on riverboats and Indian reservations
2	**Triton Energy** (oil and gas)	$6.25	$33.38	—	434%	Big oil discovery in Colombia; restructuring
3	**Countrywide Credit Industries** (diver. financial)	$9.25	$40.63	$0.33	347%	Substantial increase in mortgage loan originations
4	**Conseco** (life insurance)	$14.06	$61.88	$0.13	341%	Acquisitions; streamlined back-office operations
5	**Charles Schwab** (discount brokerage)	$7.58	$30.38	$0.13	303%	Influx of new clients; higher commissions due to bull market
6	**CML Group** (specialty retailer)	$8.75	$34.13	$0.02	290%	Rising sales of NordicTrack exercise machines
7	**Delta Woodside Industries** (textiles)	$5.00	$18.88	$0.30	286%	Strong demand for apparel and textiles; profits quadrupled
8	**Green Tree Acceptance** (financial)	$10.88	$39.00	$0.60	266%	Increase in financing contracts for manufactured housing
9	**Broad** (financial services)	$5.50	$19.75	$0.20	266%	Repositioning to concentrate on retirement products
10	**Duty Free International** (specialty retailer)	$13.75	$49.63	—	261%	Foreign travelers spending up; acquisition of new shops

NEW YORK STOCK EXCHANGE THE 50 BEST (continued)		Stock price 12/31		Dividends per share	Total return to investors	Comments
		1990	1991			
11	**Inter-Regional Financial Group** (regional brokerage)	$5.00	$16.88	—	238%	Rising brokerage commissions due to bull market
12	**Gap** (clothing retailer)	$16.56	$53.50	$0.29	225%	Popularity of its moderately priced apparel
13	**Amcast Industrial** (metal products)	$6.75	$21.13	$0.48	225%	Successful restructuring; stock repurchase
14	**Tyco Toys**	$10.50	$34.00	—	224%	Recapitalization; popular toys like the Little Mermaid doll
15	**Office Depot** (office supply retailer)	$15.63	$50.50	—	223%	Nearly doubled number of its popular discount stores
16	**United HealthCare** (managed health care)	$23.25	$74.50	$0.03	220%	Growth in managed-care operations
17	**Venture Stores** (discount retailer)	$8.00	$24.37	$0.54	213%	Strong sales and earnings gains from May Dept. Stores spinoff
18	**United States Surgical** (medical supplies)	$35.69	$111.00	$0.29	212%	Popular instruments for minimally invasive surgery
19	**Mercury Finance** (consumer finance)	$8.37	$25.25	$0.25	205%	Declining interest rates; high credit quality
20	**Family Dollar Stores** (discount retailer)	$11.63	$34.38	$0.43	202%	Ongoing efficiency drive; 40% increase in profits
21	**Cooper Tire & Rubber**	$17.13	$51.00	$0.26	200%	Price and demand increases
22	**Universal** (tobacco, lumber)	$23.75	$68.00	$1.52	198%	Growing international demand for tobacco products
23	**Best Buy** (electronics and appliance retailer)	$5.63	$16.50	—	193%	New capital raised to reduce debt and finance expansion
24	**Merrill Lynch** (brokerage)	$20.75	$59.13	$1.00	192%	Increase in brokerage and underwriting revenues
25	**Reebok International** (athletic footwear and apparel)	$11.50	$33.13	$0.30	192%	Strong international sales; big stock repurchase
26	**Standard Commercial** (tobacco, wool processing)	$10.88	$30.75	$0.52	190%	Growing international demand for tobacco products
27	**Sterling Software**	$8.50	$24.63	—	190%	Popularity of electronic data interchange products
28	**Federal Home Loan Mortgage** (financial)	$48.75	$137.50	$2.00	188%	Market share growth; declining interest rates
29	**Goodyear Tire & Rubber**	$18.88	$53.50	$0.40	187%	Restructuring; price and demand increases
30	**NovaCare** (medical services)	$10.13	$28.88	—	185%	Acquisition of medical rehabilitation company
31	**A.G. Edwards** (brokerage)	$13.58	$37.88	$0.51	184%	Retail expansion; higher brokerage commissions
32	**Illinois Central** (railroad)	$12.00	$33.88	—	182%	Increased shipping volumes
33	**Metropolitan Financial** (S&L holding company)	$7.60	$20.88	$0.40	182%	Strong loan origination growth
34	**Systems Center** (software)	$5.50	$15.38	—	180%	Refocusing business on network software products
35	**Foundation Health** (medical services)	$12.63	$35.00	—	177%	Strategic acquisitions; huge increase in earnings
36	**Quick & Reilly Group** (discount brokerage)	$10.25	$27.75	$0.28	176%	Growth in commissions due to bull market
37	**American President Cos.** (containerized cargo dist.)	$15.50	$41.25	$0.60	172%	Big business from Desert Storm
38	**National Health Laboratories** (clinical testing)	$11.00	$29.25	$0.26	170%	Increased market share; secondary stock offering
39	**Fabri-Centers of America** (fabric retailer)	$17.17	$45.88	—	167%	New, larger stores; strong sales growth
40	**Del Webb** (real estate)	$6.25	$16.38	$0.20	167%	Focused on building retirement communities
41	**Network Equip. Tech.** (communications products)	$6.00	$15.75	—	163%	Greatly expanded product line
42	**Home Depot** (home improvement retailer)	$25.75	$67.38	$0.10	162%	Tight cost containment; more stores; strong profit growth
43	**TCF Financial** (savings bank holding company)	$7.63	$19.38	$0.40	161%	Return to profitability
44	**Paine Webber Group** (brokerage)	$9.17	$23.38	$0.35	160%	Higher commissions and underwriting fees
45	**Crompton & Knowles** (specialty chemicals)	$17.13	$43.25	$0.50	157%	Better sales of fabric dyes
46	**Raymond James Financial** (brokerage)	$12.25	$30.75	$0.23	154%	Increase in commissions due to bull market
47	**PHM Corp.** (homebuilding, financing)	$9.38	$23.50	$0.12	153%	Declining interest rates; increased market share
48	**Continental Medical Systems** (medical services)	$10.33	$26.00	—	152%	Growing demand for its physical rehabilitation services
49	**Omnicare** (medical services)	$8.00	$19.88	$0.12	151%	Acquisitions of nursing-home pharmacies
50	**Esterline Technologies** (precision instruments)	$6.25	$15.63	—	150%	Cost cutting; debt reduction

NEW YORK STOCK EXCHANGE THE 10 WORST		Stock price 12/31		Dividends per share	Total return to investors	Comments
		1990	1991			
1	**HomeFed** (savings & loan holding company)	$5.00	$0.31	$0.05	-94%	Bad loans on apartments and nonresidential real estate
2	**Orion Pictures** (film producer and distributor)	$13.25	$1.88	—	-86%	Heavy losses from disappointing 1990 releases
3	**Carolco Pictures** (film producer and distributor)	$8.50	$1.88	—	-78%	Forced to renegotiate its debt
4	**Russ Togs** (apparel)	$5.75	$1.38	—	-76%	Filed for Chapter 11 in November 1990
5	**LIVE Entertainment** (home video distributor)	$12.38	$3.25	—	-74%	Lost $50 million on sale of subsidiary
6	**Standard Brands Paint** (paint retailer)	$7.00	$2.25	—	-68%	Heavy debt; sales declines
7	**Western Co. of North America** (oil field services)	$14.25	$5.00	—	-65%	Falling domestic rig count
8	**Columbia Gas System** (natural gas holding co.)	$46.88	$17.25	$1.16	-62%	Filed for Chapter 11 in July
9	**Hibernia** (bank holding company)	$6.63	$2.75	$0.15	-58%	Troubled commercial real estate loans
10	**Savin** (distributes copiers)	$6.30	$2.75	—	-56%	Revenues down; margins decreased

Who wants some ice cream? Apparently lots of folks, as evidenced by the explosive sales growth enjoyed by the Eskimo Pie Corp. of Richmond. Its shares were a sweet surprise as well, rising 439%. That made one shareholder especially happy: Reynolds Metals owns 84% of the outstanding stock.

OVER-THE-COUNTER EXCHANGE THE 25 BEST		Stock price 12/31 1990	1991	Dividends per share	Total return to investors	Comments
1	**Synergen Pharmaceuticals** (biopharmaceuticals)	$11.50	$68.50	—	496%	Two more promising products in clinical trials
2	**Score Board** (sports memorabilia)	$5.59	$31.25	—	459%	Strong demand for its memorabilia products
3	**Gensia Pharmaceuticals** (biopharmaceuticals)	$9.38	$52.00	—	455%	Two proprietary drugs in late stages of testing
4	**Eskimo Pie** (food marketer)	$7.00	$37.00	—	439%	Big successes with sugar-free products in 1991
5	**Vicor** (electronics)	$8.75	$43.00	—	391%	Margins widened on sales of a favorable product mix
6	**Thorn Apple Valley** (meat manufacturer)	$6.50	$31.50	—	385%	Higher margin, branded products sold well
7	**National Western Life Insurance** (insurance)	$5.75	$27.75	—	383%	Premiums up, earnings rise sharply
8	**Clinical Technologies** (pharmaceuticals)	$6.63	$30.44	—	359%	Equity capital raised to fund R&D
9	**Healthcare Compare** (cost management)	$8.63	$39.50	—	358%	Strong demand for cost-management services
10	**Electronic Arts** (entertainment software)	$9.38	$38.25	—	308%	Leading third-party publisher of software for Sega Genesis
11	**Comnet** (computer software)	$8.38	$34.00	$0.64	306%	Strong sales of software to health care industry
12	**Vencor** (hospitals)	$11.17	$45.25	—	305%	Acquisitions spur growth; earnings jump
13	**T2 Medical** (home infusion therapy)	$14.38	$57.75	—	302%	Strong earnings and continued growth of market
14	**InterPharm Laboratories** (biotechnology)	$11.13	$44.25	—	298%	Higher sales of hormone drug in Italy
15	**HealthInfusion** (home therapy)	$5.83	$23.00	—	294%	Strategic acquisitions, consistent earnings growth
16	**Solectron** (electronics)	$8.88	$34.75	—	292%	Increased demand from computer industry, strong earnings
17	**PictureTel** (videoconferencing equipment)	$12.13	$47.37	—	291%	Expanding market, strong earnings gains
18	**Ameritrust** (bank holding company)	$8.13	$30.75	—	290%	Announced merger with Society Corp., a Cleveland bank
19	**Cambex** (computer products)	$8.09	$31.50	—	290%	Strong earnings, settled lawsuit with IBM
20	**Atrix Laboratories** (biotechnology)	$5.19	$20.00	—	286%	Final stages of clinical trials for a new drug application
21	**First National Pennsylvania** (bank)	$9.71	$36.75	—	279%	Expected merger with Mellon Bank of Pennsylvania
22	**Cannon Express** (trucking company)	$5.25	$19.25	—	267%	Steady growth in number of truckloads
23	**Amgen** (biotechnology)	$20.75	$75.75	—	265%	Neupogen, a potential blockbuster drug, launched in Feb. 1991
24	**Novell** (computer software)	$16.50	$60.00	—	264%	Rapid growth in its markets
25	**Rainbow Technologies** (software security)	$6.50	$23.25	—	258%	Strong demand for software security

OVER-THE-COUNTER EXCHANGE THE 5 WORST		Stock price 12/31 1990	1991	Dividends per share	Total return to investors	Comments
1	**Woods Investment** (investment company)	$7.00	$0.01	—	-100%	Liquidated
2	**Landmark Land** (real estate)	$8.12	$0.34	—	-96%	Entered Chapter 11 in October
3	**Ventura Entertainment Group** (movies)	$7.87	$0.36	—	-95%	Large losses
4	**Y&A Group** (engineering consulting)	$10.25	$0.50	—	-95%	Large losses; CEO disappeared
5	**Showcase Shop By Video** (commercial videos)	$5.25	$0.38	—	-93%	N.A.

KV Pharmaceutical of St. Louis is the longstanding leader in controlled-release medicines. But expected royalties from a bulging pipeline of new drugs helped drive the stock up more than 300% in 1991. Kidder Peabody analyst James Flynn maintains that it is still a good buy.

AMERICAN EXCHANGE THE 25 BEST	Stock price 12/31 1990	1991	Dividends per share	Total return to investors	Comments
1 **IVAX** (pharmaceuticals)	$5.23	$38.63	—	639%	Growth through acquisitions; new drug development
2 **KV Pharmaceutical***	$4.19	$18.62	—	353%	Advanced stages of testing for many products
3 **Medchem Products** (medical products)	$5.00	$22.25	—	345%	Strong earnings growth; settlement of patent disputes
4 **Medco Research** (pharmaceuticals)	$5.69	$24.63	—	333%	Obtained rights to three new products
5 **U.S. Bioscience** (cancer treatments)	$19.50	$78.00	—	300%	Several products in advanced stages of testing
6 **SPI Pharmaceuticals**	$8.52	$31.25	$1.02	281%	New East European subsidiary increases profits
7 **Johnson Products** (personal care products)	$5.75	$18.75	—	226%	Rising revenues from hair care products
8 **Fruit of the Loom** (apparel)	$8.88	$27.63	—	211%	Debt reduction; strong worldwide sales growth
9 **Railroad Financial** (savings & loan holding company)	$5.00	$15.38	—	208%	Lower interest rates improve net interest margin
10 **Genovese Drug Stores** (discount drugstores)	$5.34	$14.63	$0.23	181%	Successful cost cutting; addition of new stores
11 **Organogenesis** (living organ equivalents)	$7.25	$20.00	—	176%	A secondary stock offering; new product lines introduced
12 **Gainsco** (property and casualty insurance)	$5.09	$14.00	$0.02	176%	Premium income growth
13 **Abiomed** (medical products)	$6.25	$16.86	—	170%	Anticipated FDA approval of temporary heart pump
14 **Ziegler** (financial services)	$10.50	$26.00	$0.77	163%	Increased underwriting of debt issues
15 **Hasbro** (toys)	$15.63	$40.50	$0.23	161%	Merger with Tonka; strong international growth
16 **Advanced Magnetics** (medical diagnostics)	$9.34	$24.00	—	157%	New financial structure raises profit potential
17 **Carrington Labs** (biopharmaceuticals)	$6.63	$16.00	—	142%	Profitability turnaround; optimism over animal cancer drug
18 **Benchmark Electronics** (electronics mfg. services)	$5.00	$12.00	—	140%	Record earnings; new facility opened
19 **Westcorp** (savings & loan holding company)	$5.71	$13.50	$0.12	140%	Solid loan portfolio; earnings up sharply
20 **Epitope** (biotechnology)	$9.75	$22.88	—	135%	Anticipated FDA approval for device used in testing for HIV
21 **Plains Resources** (oil and gas)	$6.13	$14.00	—	129%	Natural gas discovery in Louisiana
22 **Cablevision Systems** (entertainment)	$15.50	$35.00	—	126%	Deleveraging; increased subscriber base
23 **Entertainment Publishing** (discount coupon books)	$15.25	$34.25	—	125%	CUC International announces intended acquisition in October
24 **PEC Israel Economic** (invests in Israeli businesses)	$13.50	$30.25	—	124%	Strong earnings; gains from sale of investments
25 **Fidelity National Financial** (title insurance)	$8.41	$18.00	$0.45	122%	Drop in interest rates should spur mortgage refinancings

*Adjusted for split. Actual price on 12/31/90 was $8.52.

AMERICAN EXCHANGE THE 5 WORST	Stock price 12/31 1990	1991	Dividends per share	Total return to investors	Comments
1 **Granada BioSciences** (biotechnology)	$9.75	$0.38	—	-96%	Unable to make debt repayment
2 **Edisto Resources** (oil and gas)	$10.50	$1.75	—	-83%	Decrease in oil and gas revenues; net losses
3 **Granada Foods** (food products)	$6.13	$1.13	—	-82%	Revenues down; lower beef exports
4 **Chiles Offshore** (oil and gas)	$7.88	$3.00	—	-62%	Poor market conditions; heavy losses
5 **Riedel Envir. Tech.** (hazardous waste management)	$7.00	$3.00	—	-57%	Its coal mine and hazardous waste facilities lost money

A HOT YEAR FOR WORLD MARKETS

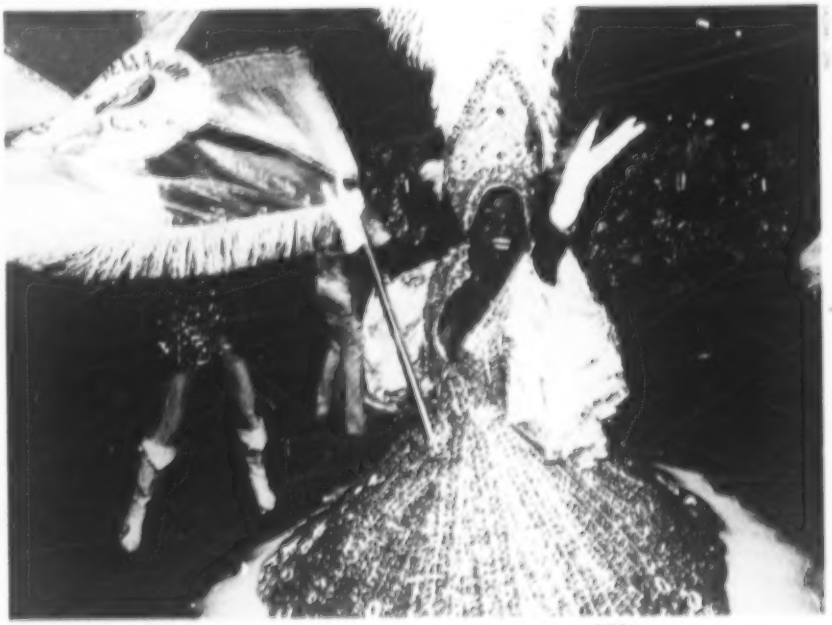
True enough, the bulls ran wild in the U.S. last year as its stocks returned an average 26% to investors, the most of any major market. But that was mere animal feed to the markets of smaller nations, notably those of Latin America. Brazil was the world leader, in local currency at least, with a return to investors of 1,569%.

Now, Brazil's bull was no ordinary Taurus. In a country suffering high inflation and a collapsing cruzeiro, investors chose to focus on the prospect for meaningful economic reforms—leading to better times—down the road. Is there more upside left? You bet, says Lincoln Rathnam, Scudder Stevens & Clark's Latin America guru. Brazil offers the greatest prospects in Latin America, he says, provided it cleans up its act. Hope springs eternal.

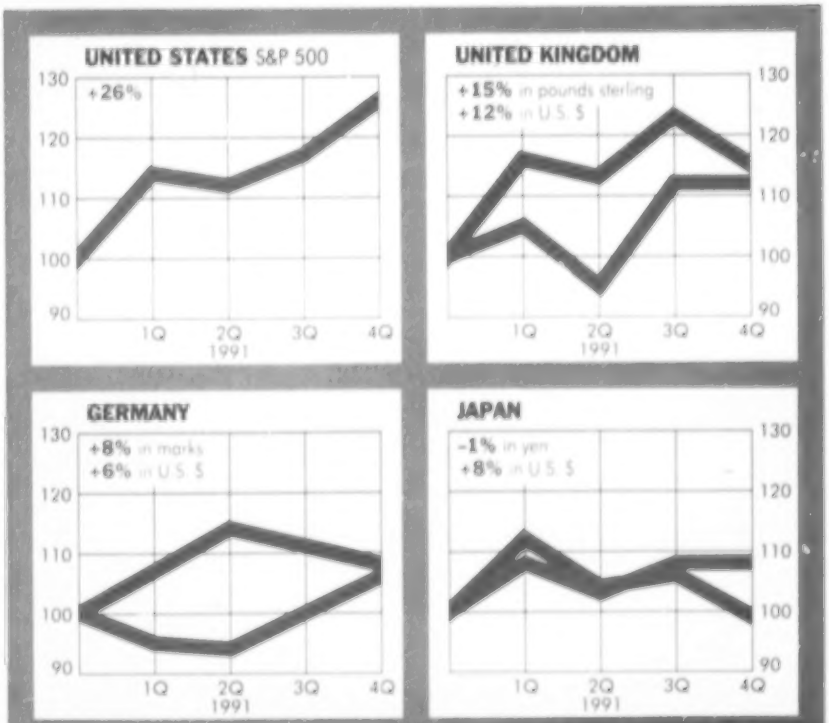
Argentina, and reform-minded President Carlos Saul Menem, gave dollar-based investors a meaty 403% return. Menem helped pull his country out of its worst slump since the Great Depression, while bringing chronic hyperinflation down to manageable levels. No wonder investors made this market their mecca. Mexico and Chile rewarded their fans with rich returns too. Both countries were early in the reform process that has swept most of Latin America. Because of the big run-ups in Latin markets, experts advise investors to approach with caution.

Europe's bourses were slowed by steep interest rates, which drove money from stocks to high-yielding bonds. Germany set the pace. The Bundesbank pushed long-term bond rates from 8.5% to 9.75%, both to battle inflation and to help lure money to finance the rebuilding of eastern Germany. Bound by economic accords, much of the rest of Europe lifted rates too. With many of Europe's economies in a slump, interest rates should back off in 1992, and stocks could rise.

Markets that advanced in 1990 on the strength of a war-driven run-up in oil prices beat a fast retreat in 1991, as Iraq's defeat led to a quick drop in crude. Indonesia and Norway, two big oil exporters, were among the top-performing markets in 1990. But last year their rallies dried up.



Despite 450% inflation, Brazilian investors had a carnival, lifting stocks 1,569%.



AMONG THE HEAVYWEIGHTS, AMERICA WINS

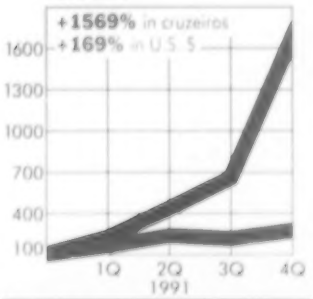
For the second year, U.S. stocks, as measured by Standard & Poor's 500 index, were tops among the world's biggest markets. Higher interest rates held back the bull in Germany and Japan. Britain's bourse got a boost from lower inflation.

Index, fourth quarter 1990 = 100

SOURCE: MORGAN STANLEY CAPITAL INTERNATIONAL

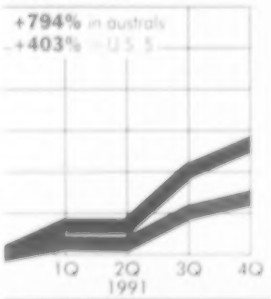
BEST MARKETS

BRAZIL



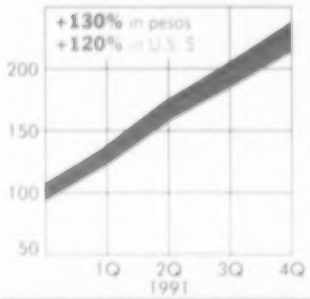
Stocks rebounded from 1990 lows as investors bet heavily on the prospect of economic reform. Brazil Fund trades in New York.

ARGENTINA



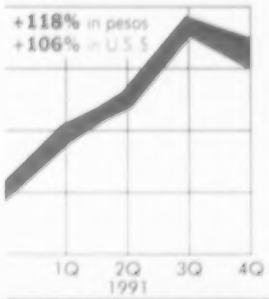
Economic reforms ended a deep recession and corralled inflation. Argentina Fund trades on the Big Board.

MEXICO



Economic reforms and the promise of more trade with the U.S. sent stocks spiraling up. Three Mexican funds trade in New York.

CHILE

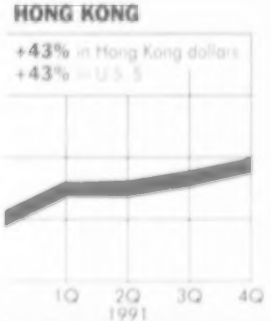


An inflow of money from Chile's compulsory pension plan fueled the market's rise. Chile Fund is on the Big Board.

PHILIPPINES

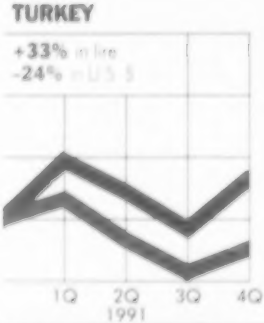
The market benefited as the political scene improved. The First Philippine Fund trades on the New York Stock Exchange.

HONG KONG



A continued recovery from Tiananmen Square jitters and falling interest rates sent the market higher.

TURKEY



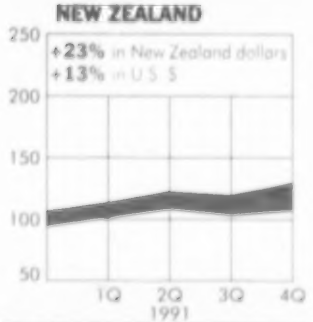
Anticipation that Turkey may enter the EC lifted stocks. Turkish Investment Fund is on the New York Stock Exchange.

AUSTRALIA

Interest rates and inflation fell sharply, giving the market a boost. The 1st Australia Fund trades on the Big Board.

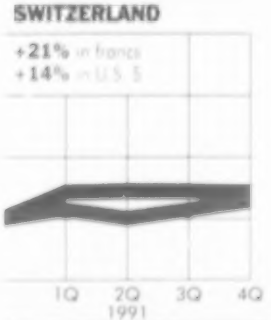
WORST MARKETS

NEW ZEALAND



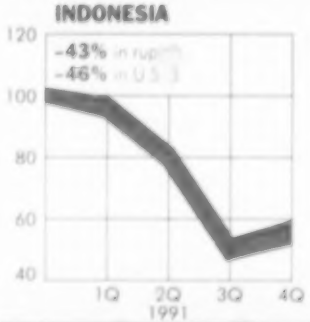
After a long recession, New Zealand has begun to turn up. Telecom Corp. of New Zealand has an ADR on the New York Stock Exchange.

SWITZERLAND



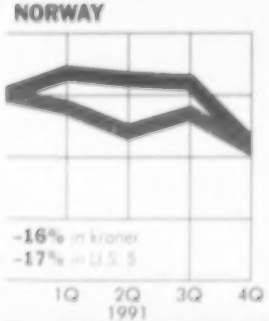
Big multinational companies that dominate the market had strong earnings. Swiss Helvetia Fund trades in New York.

INDONESIA



After a spike up in 1990, the market slid back on lower oil prices and rising interest rates. Two funds trade on the Big Board.

NORWAY



Slipping oil prices and some big bank failures rattled investors. An ADR for Norsk Hydro trades in New York.

Index: fourth quarter 1990 = 100

SOURCE: MORGAN STANLEY CAPITAL INTERNATIONAL

VICTIMS OF THE CREDIT CRUNCH

Lending officers are scared. Banks are passing the word: Don't come to us for a loan. Here's how borrowers are coping—and how the squeeze saps the recovery's strength. ■ *by Gary Hector*

NOT SINCE World War II has American business been caught in as severe a recessionary bank credit contraction as it is today. Over the 12 months ended last September, according to the Federal Deposit Insurance Corp., business loans on the books of U.S. banks declined 8%. In some states, it's much worse than that. Business borrowing in New Hampshire dropped 43% in this period, while Connecticut, the District of Columbia, and Massachusetts were all down 20% or more.

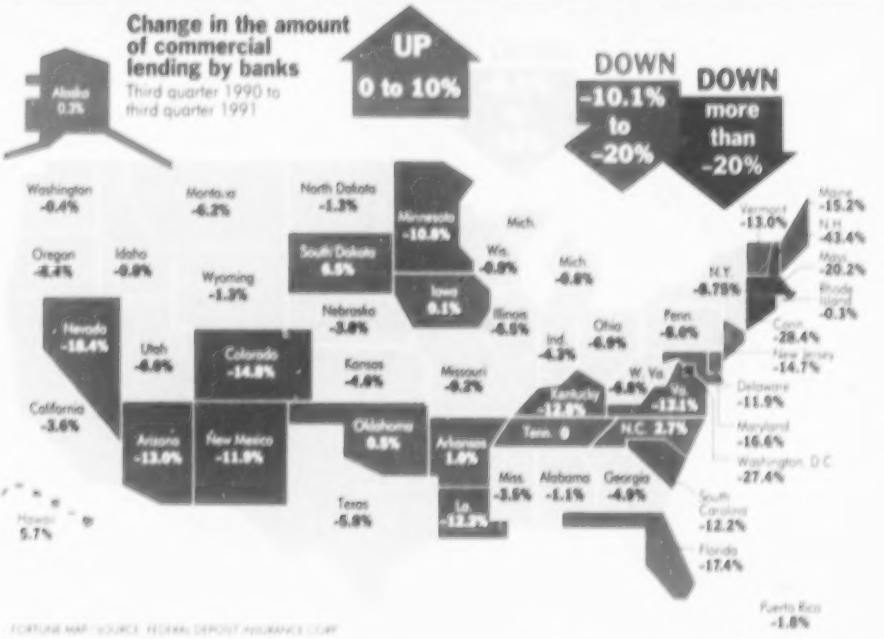
Some of the falloff undoubtedly comes from the slackening of loan demand that accompanies all recessions as businesses need less money to finance expansion. But what makes this recession different is that so many banks are themselves in trouble. 124 banks failed last year, and the FDIC expects nearly twice that many to expire this year. Bank regulators, who have vivid memories of what happened to the freewheeling, fast-lending S&Ls, are combing through loan portfolios, emphasizing soundness to the point that bankers feel the best way to avoid trouble is to avoid all risk. Banks are now concerned with rebuilding their ravaged capital to reassure nervous investors and depositors, and to comply with tightened international standards that go into effect this year.

Few institutions are willing to take risks for which they may have to reserve additional capital, and many are laying off staff to cut expenses. Says Anthony Alaimo, who helps small businesses find lenders as a consultant with Cooney Von Soosten in Fairfax, Virginia: "Because of the losses and the layoffs, the loan officers that are left are scared to death. They don't want to make a mistake. You don't get fired for inaction; you get fired for making a bad loan."

Bank loans are not the only type of short-term borrowing that has decreased. Commercial paper outstanding declined nearly 8% through the year ended May

Mitslal's $2 million chemical business foundered when his bank began backing off a promised loan for an addition to this Newark, New Jersey, plant.

THE CREDIT CRUNCH GOES NATIONAL



FORTUNE MAP / SOURCE: FEDERAL DEPOSIT INSURANCE CORP.

1991. Some economists see this broad decline as proof that demand for loans is dropping, rather than the supply being curtailed by banks. According to a study by Ben S. Bernanke of Princeton University and Cara S. Lown of the Federal Reserve Bank of New York, there has been an unusually sharp drop in overall demand for credit. They also say, however, that the shortage of bank capital has limited banks' ability to make loans.

But Frank Cahouet, chief executive of Mellon Bank Corp. in Pittsburgh, argues that a big part of the drop comes from a bank-induced "invisible credit crunch." Borrowers aren't asking for loans because they know they'll be turned down. And they aren't using their credit lines because they know their bankers would object. Says Cahouet: "Bankers are sending signals to borrowers that they'd better be cautious. Don't come to us for a loan. The borrowers listen. They become more self-reliant. They cut back on capital equipment spending, stop hiring, defer expansion plans. Banks are much more risk-averse in this kind of environment than we would like to be."

THE EFFECTS of banks' tighter standards fall unevenly on the economy. Says Cahouet: "There is no real problem lending to the best companies. The credit crunch affects the lower end of the acceptable credits." Smaller companies are being scrutinized more carefully than ever before. According to a survey taken in October by the Springfield, Massachusetts, Chamber of Commerce, small retailers are among that area's chief victims. A weak bank may cast needy customers out into banking's Sahara, while a strongly capitalized institution, like Winston-Salem's Wachovia or Detroit's Comerica, can afford to stick by them. Given the importance of the bank's financial condition, it's possible for two borrowers in the same town, in similar financial fettle, to face drastically different loan prospects depending on where they bank.

No businesses are more parched for credit than real estate developers, for whom the earth grows drier every day. Commercial real estate loans dropped by nearly 18% in the 12-month period ended last September, more than twice the fall in other business loans. In depressed Massachusetts, they have plunged 59%. Says Stan Ross, a senior partner at Kenneth Leventhal & Co., a Los Angeles accounting firm that specializes in real estate: "A year ago weak real estate companies couldn't get credit. Today strong companies are being targeted for cutbacks by the banks as the only way to reduce their exposure to real estate."

Outside real estate the crunch is more selective but no less painful. Business loans have dropped sharply in New England, Arizona, Colorado, Florida, New Jersey, South Carolina, and elsewhere (see map). Jilted borrowers don't like to discuss the details of their banking problems. Admitting your bank has dumped you can be like admitting your spouse ran away with a lover; it raises questions about *you*. But Fortune has found a few businessmen willing to talk—and their tales show how tight credit is restraining economic recovery.

"It's not in our target marketing area. We don't feel comfortable in the tire industry."

Consider Tesfaye Mitslal, owner of Amlack Inc., a chemical company in Newark, New Jersey. Three years ago Mitslal's business was in great shape, with sales of about $2 million a year and profits of about $240,000. Amlack made additives for the printing and paper-coating industries, and as the business was growing, Mitslal decided to expand. His bank, the Howard Savings Bank, agreed to back his growth, so he bought a piece of sophisticated equipment—an electron beam for processing polymers—and began an addition to his plant to house the new machinery.

Construction was delayed for a few weeks by a fire next door to the plant. Because his doors were shut while he expanded, Mitslal wound up making late payments on his loan. Meanwhile, bank examiners arrived at Howard Savings to scrutinize the loan portfolio. Just as Mitslal finally started pouring the foundation for his new wing, Howard, under pressure from examiners, began to drag its feet and discourage him from borrowing. Then, by the summer of 1990, it became clear that the bank was not going to lend the money to finish construction anytime soon.

Mitslal desperately needed to complete the addition just when banks in general were refusing to touch any loan connected to commercial real estate. So his consultant, Anthony Alaimo, helped him pitch his case to banks and finance companies. The two men scurried from bank to bank but found that loan officers had dozens of excuses for not lending. Undaunted, Mitslal approached the New Jersey Economic Development Authority and received a

Reporter Associate Mark D. Fefer

$500,000 loan, plus a 90% state guarantee for a bank loan of $700,000. But even with the guarantees, he says, "nobody wants to touch me."

Unable to finish construction, Mitslal is essentially out of business. His plant is closed, and he can't sell most of his additives. He has persuaded one of his customers, a FORTUNE 500 company, to guarantee the remaining $70,000 of the loan he needs that the state hasn't backed. He hopes a 100% guarantee will loosen up bankers' wallets.

Banks that would ordinarily see their customers through hard times are less likely to do so today. Big O Tires, a Denver manufacturer, discovered this fact when its local lender, Central Bank of Denver, was bought in 1988 by First Bank System of Minneapolis. When the threat of war in the Middle East started to slow the economy, Big O's profits tumbled from $1.6 million on sales of $108 million in 1989 to $700,000 on revenues of $107 million in 1990. Steven Cloward, the CEO, admits: "We took some heavy hits in the fourth quarter of 1990. But the banks knew that our earnings would come back. We forecast profits for 1991 that were going to be considerably higher than in 1990. There was never fear that we were going to miss a payment."

Even so, Central Bank (which declines to comment about its customers) told Big O that it had reviewed its lending strategy and no longer wanted a large exposure in the tire industry. The none-too-subtle message: Take your business elsewhere. Big O assigned its investment banker, Gruntal & Co., the task of hunting up another source of funds. It took Gruntal six months and conversations with nearly two dozen possible lenders. "Banks came up with one excuse after the other," says Jay Matulich, the Gruntal man who did the prospecting. " 'It's not in our target marketing area. We don't feel comfortable in the tire industry.' " Although Big O met its goal of restoring its profits, there was still no enthusiasm for lending to it.

Barclays Business Credit, a finance company, finally came through in October with a line of credit for $12 million. But the interest rate is one percentage point above the prime, vs. Central Bank's revolving loan at prime.

Other borrowers are learning to live completely without bank credit. Vince Triolo built a ten-person computer software company in Allentown, Pennsylvania, during the 1980s. But in 1989, with computer sales in a slump, his company lost $30,000 on sales of $800,000, after a $50,000 loss the year before. Triolo tried to restructure his $80,000 in bank debt, but one of his two banks refused to participate, and he filed for personal bankruptcy last August.

"I'm not going back with a desire to grow the business rapidly. My expectations are lower."

He's back in business today with three employees, relying on credit from some suppliers and cash on delivery from most customers. "I wouldn't have ever asked a customer to do that five years ago," he says. "But times have changed. I've cut back all my overhead. I'm working out of my house, yet I'm earning, net, the same as when I had ten people." The biggest change is in Triolo's aspirations: "I'm not going back with a desire to grow the business rapidly. My expectations are lower."

YES, THOSE GREAT expectations that drive business expansions—animal spirits, Keynes called them—suffer most when lenders turn ultracautious. Not long ago bankers would have courted an outfit like Care Enterprises, a nursing home operator in Orange County, California. After overexpanding in the mid-1980s, Care kicked out the old management, revamped its strategy, and emerged from Chapter 11 in December 1990 with a cash flow of $15 million and its bank debt reduced from $32 million to $26 million.

But Care also emerged with onerous restrictions in its bank agreements that keep it from making substantial capital investments or expanding. Instead of easing up on those restrictions, its banks are hanging tough, and Richard Matros, Care's president, says they sound as if they want to be paid off early. "It's frustrating," he adds. "It would be one thing if they got burned and we were still struggling to make our payments. But that's not the case. You feel like, 'Give us a break, guys!' There's only so much you can do to drive up revenues without making capital investments. We've done about all we can do."

The trouble is, that's what many banks are saying about themselves too. Treasury Secretary Nicholas Brady has been leaning on the regulators to lighten up and let the money flow. Alan Greenspan and the Federal Reserve have done their part by cutting the discount rate to its lowest level in 27 years. Under normal circumstances, lower interest rates would eventually make even marginal businesses creditworthy. But we seem to be in the midst of a vicious cycle: Bad loans on their books make bankers reluctant to lend; that hobbles the recovery, turning once attractive borrowers into shaky credits. If economic recoveries must become a state of mind before they turn into dollars and cents, now is the time for a change of attitude. F

After his lender showed him the door, Cloward hunted six months for a loan.

Leverage-laden issuers wanted to pay down their debt just when stock-starved investors were wearying of puny T-bill returns. So equity came back in a big way. ■ *by Anne B. Fisher*

IN 1991 the worm turned. Lowly equity, largely ignored during the 1980s debt extravaganza, came into its glittering own. It was never cheap money: Issuers get no tax deduction for dividends the way they do for interest, and long-suffering shareholders suffer some more from dilution. Nonetheless, after a decade in which more than $640 billion of equity disappeared from corporate America's books, a little of it is creeping back. Last year equity offerings amounted to $76 billion. Out of the 50 biggest deals, 16 were stock transactions of one kind or another, vs. only two in 1990.

Mergers and acquisitions continued, but at a very reduced pace from the sizzling past. Only 23 of them made the top 50, compared with 41 in 1990. Last year's two largest deals were telecommunications consolidations: AT&T bought NCR for $7.4 billion and GTE picked up Contel for $6.7 billion. Banks were eyeing each other too. NCNB paid nearly $4.6 billion for C&S/Sovran, and Chemical acquired Manny Hanny for $1.8 billion. All four of these were stock transactions. Many other bank couplings—including the bellwether BankAmerica–Security Pacific marriage—will likely happen in the spring.

Equity's new popularity has brought a buzz to the formerly somnolent corporate finance departments of Wall Street firms, as fees for underwritings ($3.4 billion last year) have sailed past merger and acquisition billings (about $400 million that were disclosed) for the first time since the mid-1980s. But do investors know what they're getting into?

Consider: When Ford Motor Co. in November came out with its $2.1 billion offering of depositary shares in the U.S.—part of a $2.3 billion deal that was offered globally—the company, which announced nine-month losses of $1.8 billion, had one wheel in a muddy ditch. The issue was oversubscribed anyway. Investors, weary of puny returns on T-bills, CDs, and money market funds, grabbed the opportunity for an 8% yield. Three weeks later General Motors, in even worse financial shape than Ford, proffered $1.1 billion worth of preference stock depositary shares yielding 9%, and found no shortage of optimists.

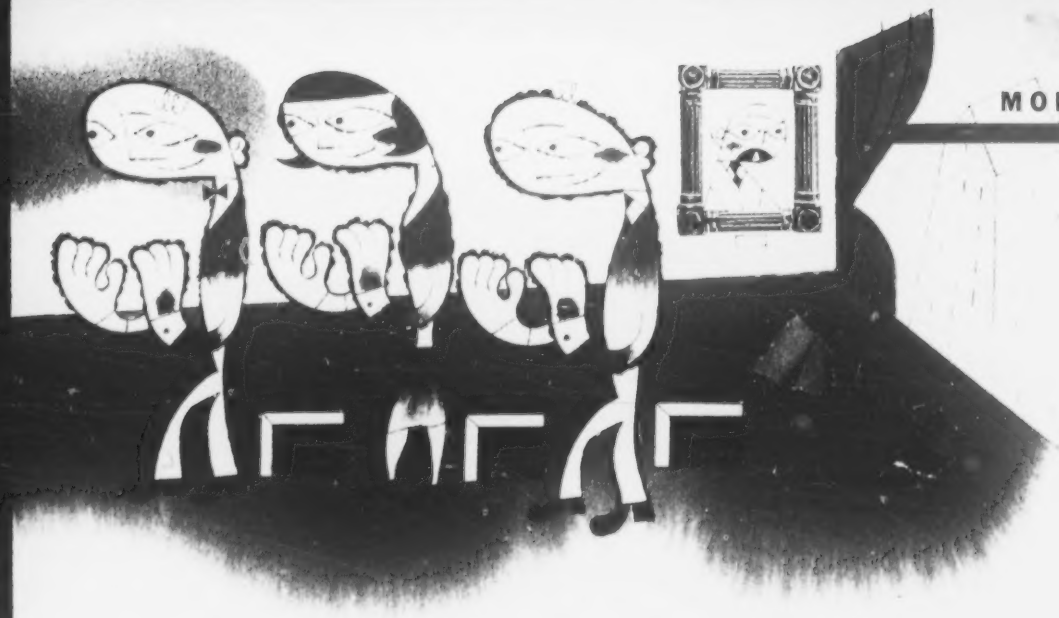
While declining interest rates gave the market a lot of its kick, much of 1991's activity is easily traced to deleveraging. Witness RJR Nabisco, the leverage leviathan, slowly and surely paying down its monstrous $32 billion debt, partly by way of equity offerings. Make no mistake, deleveraging is the future. Banks, spooked by the end of a decade of easy money and a large amount of regulatory finger-pointing, will no longer readily lend to any company that is not considered investment grade by the rating agencies. And the rating agencies are scouring the balance sheets for equity too. Says a senior officer at Standard & Poor's, who would rather die than be named here: "There is no hard-and-fast formula for what debt-equity ratio makes any given company investment grade. But we know it when we see it." Ah, the very stuff that hot equity markets are made of.

Helping fan the deleveraging flames are the legions of erstwhile junk-bond gurus, now hiring themselves out as restructuring experts. This is a bit like a fire department made up of reformed pyromaniacs. Restructuring, including goosing the equity portion of the client's balance sheet, is the Wall Street career of the 1990s, and it's hardly a coincidence that the same faces keep turning up.

What happened, for example, when Harcourt Brace Jovanovich, choked by debt and facing bankruptcy, decided to recast itself—a process that eventually included being acquired by General Cinema? HBJ Chairman John Herrington sought out the onetime Drexel Burnham Lambert bankers who had popularized high-yield bonds and were leaders in the field. His reasoning: "I figured the people who'd built the house of cards would know best how to dismantle it." Herrington traced his quarry to Smith Barney, hired them, and reports he was then able to talk their fee down from $18 million to $11 million. He says, "If you're looking for a restructuring adviser, it's a buyers' market."

REPORTER ASSOCIATE: *Kathleen Carroll Smyth*

ILLUSTRATIONS BY PHILIP ANDERSON



RANK		VALUE (000) % of book value	TRANSACTION	FINANCIAL INTERMEDIARIES (Client)	FEE (000)	FEE as % of deal
1	**AT&T acquires NCR**	**$7,377,596** 406%	**Acquisition for stock, September 19**	MORGAN STANLEY (AT&T)	**$13,280**	.18%
				DILLON READ	**$17,866**	.24%
				GOLDMAN SACHS (NCR)	**$17,866**	.24%
2	**GTE acquires CONTEL**	**$6,728,719** 401%	**Acquisition for stock, March 14**	MERRILL LYNCH	**$6,000**	.09%
				PAINE WEBBER (GTE)	**$6,000**	.09%
				GOLDMAN SACHS	**$5,000**	.07%
				SALOMON BROTHERS (Contel)	**$5,000**	.07%
3	**NCNB (banking) acquires C&S/SOVRAN (banking)**	**$4,661,630** 156%	**Acquisition for stock, December 31**	JAMES D. WOLFENSOHN	**$7,000**	.15%
				MERRILL LYNCH	**$2,000**	.04%
				MORGAN STANLEY	**$11,000**	.24%
				SALOMON BROTHERS (NCNB)	**$2,000**	.04%
				DILLON READ	**$2,000**	.04%
				FIRST BOSTON	**$14,000**	.30%
				LEHMAN BROTHERS (C&S/Sovran)	**$3,850**	.08%
4	**ALLIANZ AKTIENGESELLSCHAFT HOLDING (German insurance company) acquires FIREMAN'S FUND INSURANCE from FUND AMERICAN COS.**	**$2,909,000** N.A.	**Acquisition for cash, January 2**	LAZARD FRÈRES (Allianz Aktiengesellschaft Holding)	**N.A.**	—
				LEHMAN BROTHERS (Fund American Cos.)	**N.A.**	—
5	**TIME WARNER issues rights to common stock**	**$2,760,000** 44%	**Offering of rights to purchase 34.5 million shares, July 15**	SALOMON BROTHERS* GOLDMAN SACHS MERRILL LYNCH	**$117,638**	4.26%
6	**SCHNEIDER (French electrical equipment company) acquires 98.7% of SQUARE D (electric products), increasing its ownership to 100%**	**$2,200,000** 373%	**Acquisition for cash, August 22**	LAZARD FRÈRES (Schneider)	**$10,700**	.49%
				GOLDMAN SACHS (Square D)	**$11,000**	.50%
7	**FORD MOTOR sells preferred stock**	**$2,127,500†**	**U.S. offering of 42.6 million depositary shares as part of a $2.3 billion global offering, November 13**	GOLDMAN SACHS* MERRILL LYNCH	**$42,550**	2.0%
8	**RJR NABISCO HOLDINGS sells preferred stock**	**$2,126,250†**	**Offering of 210 million $.835 depositary shares, November 1**	MORGAN STANLEY* GOLDMAN SACHS	**$63,787**	3.0%
9	**CBS repurchases common stock**	**$1,999,940** 175%	**Cash tender offer for 10.5 million shares (44.5%), January 22**	SALOMON BROTHERS	**N.A.**	—

N.A. Not available.
*Lead manager.
†Includes over-allotment.
**Based on principal amount at maturity.
††Closed-end investment company.

Mergers and acquisitions

Securities offerings

THIS LIST WAS COMPILED BY REPORTER ASSOCIATE KATHLEEN CARROLL SMYTH.

RANK		VALUE (000) % of book value	TRANSACTION	FINANCIAL INTERMEDIARIES (Client)	FEE (000)	FEE as % of deal
10	**CHEMICAL BANKING acquires MANUFACTURERS HANOVER**	**$1,842,281** 52%	**Acquisition for stock, December 31**	GOLDMAN SACHS (Chemical Banking)	**$4,000**	.22%
				MORGAN STANLEY (Manufacturers Hanover)	**$4,000**	.22%
11	**CLAYTON & DUBILIER (private investment firm) acquires information products business from IBM**	**$1,525,000** N.A.	**Leveraged buyout for cash, March 27**	NONE EMPLOYED (Clayton & Dubilier)	—	—
				J.P. MORGAN LEHMAN BROTHERS (IBM)	**N.A.** **N.A.**	— —
12	**GENERAL CINEMA acquires HARCOURT BRACE JOVANOVICH**	**$1,500,000** N.A.	**Acquisition for cash of long-term bonds and common and preferred stock, November 25**	FIRST BOSTON SALOMON BROTHERS (General Cinema)	**N.A.** **N.A.**	— —
				LEHMAN BROTHERS SMITH BARNEY HARRIS UPHAM (Harcourt Brace Jovanovich)	**N.A.** **$11,100**	— .74%
12	**RJR NABISCO CAPITAL sells notes**	**$1,500,000**	**Offering of $1.5 billion 10.5% senior notes due 1998, April 18**	MERRILL LYNCH* SALOMON BROTHERS	**$18,750**	1.3%
14	**SOCIÉTÉ NATIONALE ELF AQUITAINE and ENTERPRISE OIL acquire North Sea holdings from OCCIDENTAL PETROLEUM**	**$1,350,000** N.A.	**Acquisition for cash, July 2**	LEHMAN BROTHERS S.G. WARBURG (Elf Aquitaine, Enterprise Oil)	**N.A.** **N.A.**	— —
				SALOMON BROTHERS (Occidental Petroleum)	**N.A.**	—
15	**TELEFONOS DE MEXICO (TELMEX) sells common shares**	**$1,199,000†** 22%	**U.S. initial public offering of 44 million American depositary shares as part of a $2.2 billion global offering, May 13**	GOLDMAN SACHS* BEAR STEARNS MERRILL LYNCH	**$53,680**	4.48%
16	**NUVEEN INSURED MUNICIPAL OPPORTUNITY FUND sells common stock††**	**$1,185,000†**	**Initial public offering of 79 million shares, September 19**	ALEX. BROWN & SONS JOHN NUVEEN KIDDER PEABODY LEHMAN BROTHERS MERRILL LYNCH SMITH BARNEY HARRIS UPHAM KEMPER SECURITIES LEGG MASON WOOD WALKER	**$75,050**	6.33%
17	**GENERAL MOTORS sells preference stock**	**$1,107,500†**	**Offering of 44.3 million depositary shares, each representing one-fourth of a share of Series B 9⅛% preference stock, December 5**	MERRILL LYNCH* LEHMAN BROTHERS PAINE WEBBER DEAN WITTER REYNOLDS	**$34,886**	3.15%

N.A. Not available
*Lead manager
†Includes over-allotment
**Based on principal amount at maturity
††Closed-end investment company

Mergers and acquisitions

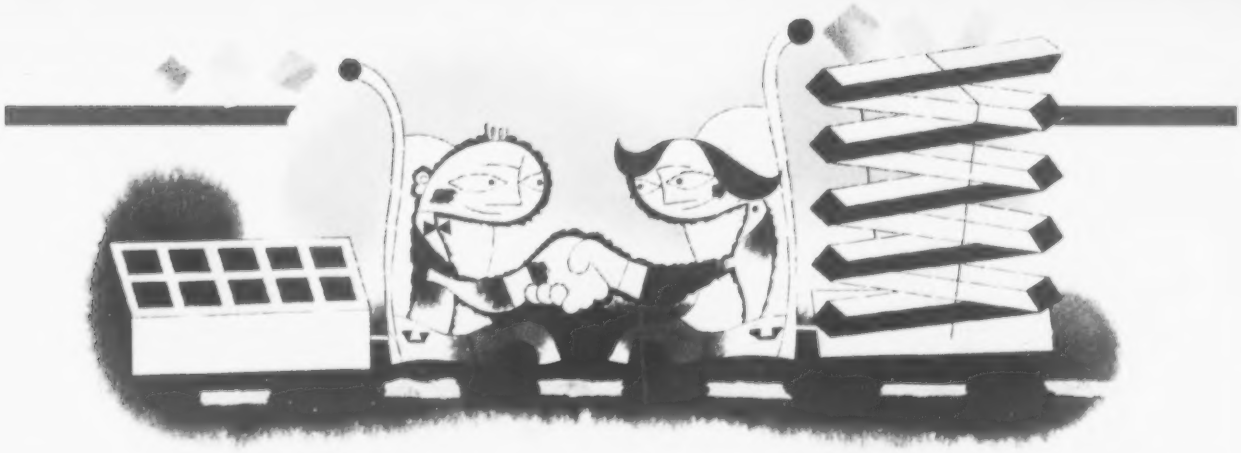
Securities offerings

RANK		VALUE (000) % of book value	TRANSACTION	FINANCIAL INTERMEDIARIES (Client)	FEE (000)	FEE as % of deal
18	**PROCTER & GAMBLE** acquires **MAX FACTOR** and **BETRIX** lines of cosmetics and fragrances from **REVLON**	$1,060,000 N.A.	Acquisition for cash, July 24	GOLDMAN SACHS (Procter & Gamble)	N.A.	—
				FIRST BOSTON LAZARD FRÈRES (Revlon)	N.A. N.A.	— —
19	**TELE-COMMUNICATIONS** (cable systems, movie theaters) acquires 46% of **UNITED ARTISTS ENTERTAINMENT** it does not already own	$1,017,275 394%	Acquisition for stock and cash, December 2	MERRILL LYNCH (Tele-Communications)	$350	.03%
				PAINE WEBBER (United Artists Entertainment)	$1,500	.15%
20	**KMART** sells preferred stock	$1,012,000	Offering of 23 million $3.41 depositary shares, August 16	MORGAN STANLEY*	$25,300	2.5%
21	**OWENS-ILLINOIS** sells debentures	$1,000,000	Offering of $1 billion 11% senior debentures due 2003, December 12	MERRILL LYNCH* BT SECURITIES GOLDMAN SACHS	$20,000	2.0%
22	**EASTMAN KODAK** sells convertible notes	$975,494†	Offering of $3.68 billion liquid yield option notes priced at 26.508% due 2011, October 7	MERRILL LYNCH*	$24,398	66%**
23	**CHEVRON PROFIT SHARING/SAVINGS PLAN TRUST FUND** sells series notes	$970,000	Offering of $30 million notes due 1993, $40 million due 1994, $50 million due 1995, $50 million due 1996, $50 million due 1997, $750 million amortizing notes due 2004, October 3	GOLDMAN SACHS* LEHMAN BROTHERS MERRILL LYNCH SALOMON BROTHERS	$5,758	.60%
24	**GTE** acquires 20% of **COMPAÑIA ANÓNIMA NACIONAL TELEFONOS DE VENEZUELA (CANTV)**	$961,350 N.A.	Acquisition for cash as part of a $1.9 billion deal in which GTE led a consortium in the purchase of 40% of the Venezuelan telephone company from the government, December 3	CITICORP CAPITAL MARKETS GROUP (GTE)	N.A.	—
				NOT PUBLICLY DISCLOSED (Compañia Anónima Nacional Teléfonos de Venezuela)	N.A.	—
25	**SEARS ROEBUCK** sells notes and debentures	$899,220	Offering of $350 million notes due 1994, $250 million due 1998, and $300 million debentures due 2011, November 5	DEAN WITTER REYNOLDS* GOLDMAN SACHS MORGAN STANLEY	$5,938	66%**
26	**GRAND METROPOLITAN INVESTMENT** (financial subsidiary of Grand Metropolitan PLC of Britain) sells guaranteed notes and debentures	$896,442	Offering of $300 million 8⅛% notes due 1996, $300 million 8⅝% notes due 2001, and $300 million 9% debentures due 2011, August 14	MORGAN STANLEY* GOLDMAN SACHS	$6,450	.72%**
27	**RJR NABISCO HOLDINGS** sells common stock	$892,688† 36%	U.S. offering of 79.4 million shares as part of a $1.3 billion global offering, April 11	GOLDMAN SACHS* BEAR STEARNS MERRILL LYNCH MORGAN STANLEY	$39,675	4.44%

N.A. Not available.
*Lead manager.
†Includes over-allotment.
**Based on principal amount at maturity.
††Closed-end investment company.

Mergers and acquisitions

Securities offerings



RANK		VALUE (000) % of book value	TRANSACTION	FINANCIAL INTERMEDIARIES (Client)	FEE (000)	FEE as % of deal
28	**WACHOVIA (banking) acquires SOUTH CAROLINA NATIONAL (banking)**	$845,597 179%	Acquisition for stock, December 6	MONTGOMERY SECURITIES (Wachovia)	$500	.06%
				FIRST BOSTON (South Carolina National)	$2,120	.25%
29	**LONG ISLAND LIGHTING sells general and refunding bonds**	$825,883	Offering of $415 million 8¼% bonds due 1996, $415 million 9¾% bonds due 2021, May 2	LEHMAN BROTHERS* BEAR STEARNS KIDDER PEABODY MERRILL LYNCH PAINE WEBBER	$6,225	.75%**
30	**GE CAPITAL acquires cargo container leasing business from ITEL (diversified transportation and logistic services)**	$825,000 N.A.	Acquisition for cash, January 3	NONE EMPLOYED (GE Capital)	—	—
				NONE EMPLOYED (Itel)	—	—
31	**ROCHE HOLDING (Swiss pharmaceutical company) acquires NICHOLAS (Netherlands pharmaceutical company) from SARA LEE**	$798,000 N.A.	Acquisition for cash, August 30	MORGAN GUARANTY TRUST (Roche Holding)	N.A.	—
				GOLDMAN SACHS (Sara Lee)	N.A.	—
32	**DILLARD DEPARTMENT STORES sells Class A common stock**	$788,485 58%	U.S. offering of $7.96 million shares as part of an $887 million global offering, April 3	MORGAN STANLEY* GOLDMAN SACHS MERRILL LYNCH	$22,141	2.8%
33	**NUVEEN QUALITY INCOME MUNICIPAL FUND sells common stock††**	$783,750†	Initial public offering of 52.3 million shares, June 19	ALEX. BROWN & SONS* JOHN NUVEEN* KIDDER PEABODY LEHMAN BROTHERS MERRILL LYNCH PAINE WEBBER PRUDENTIAL SECURITIES SMITH BARNEY HARRIS UPHAM A.G. EDWARDS & SONS KEMPER SECURITIES GROUP LEGG MASON WOOD WALKER	$49,638	6.33%
34	**MBNA (credit card business) sells common stock**	$758,241 N.A.	U.S. initial public offering of 33.7 million shares, January 22	GOLDMAN SACHS* BEAR STEARNS*	$42,799	5.64%
35	**NATIONAL WESTMINSTER BANK (New York branch) sells notes**	$750,000	Offering of $750 million 9.45% subordinated notes due May 1, 2001, April 25	GOLDMAN SACHS* LEHMAN BROTHERS MERRILL LYNCH SALOMON BROTHERS	$4,875	.65%
36	**WAL-MART STORES sells notes**	$747,450	Offering of $750 million 8⅝% notes due 2001, April 1	GOLDMAN SACHS	$4,688	.63%**
37	**GENERAL MOTORS sells preference stock**	$737,509	Offering of 17.8 million shares, June 26	MORGAN STANLEY	$14,750	2.0%
38	**TENNECO, through its PACKAGING CORP. OF AMERICA, acquires the containerboard and packaging business from GEORGIA-PACIFIC**	$727,000 N.A.	Acquisition for cash, backed by leased structure from GE Capital, January 31	J.P. MORGAN (Tenneco)	N.A.	—
				GOLDMAN SACHS* WASSERSTEIN PERELLA (Georgia-Pacific)	N.A. N.A.	— —

N.A. Not available.
*Lead manager.
†Includes over-allotment.
**Based on principal amount at maturity.
††Closed-end investment company.

Mergers and acquisitions

Securities offerings

RANK		VALUE (000) % of book value	TRANSACTION	FINANCIAL INTERMEDIARIES (Client)	FEE (000)	FEE as % of deal
39	**GTE sells debentures**	**$700,000**	**Offering of $700 million 8.85% debentures due 1998, March 5**	PAINE WEBBER*	**$4,375**	.63%
				GOLDMAN SACHS		
				MERRILL LYNCH		
				SALOMON BROTHERS		
40	**AT&T sells debentures**	**$674,080**	**Offering of $676 million 8⅝% debentures priced at 99.716% due December 1, 2031, December 5**	MORGAN STANLEY*	**$5,915**	.88%**
				FIRST BOSTON		
				LEHMAN BROTHERS		
				MERRILL LYNCH		
				PAINE WEBBER		
41	**GANNETT repurchases common stock from GANNETT FOUNDATION**	**$670,000** N.A.	**Cash tender offer for 15.9 million shares (10%), June 19**	NONE EMPLOYED (Gannett)	—	—
				FIRST BOSTON	**N.A.**	—
				SALOMON BROTHERS (Gannett Foundation)	**N.A.**	—
42	**K-III HOLDINGS (private investment firm) acquires nine publications from NEWS CORP.**	**$650,000** N.A.	**Acquisition for cash, June 17**	LAZARD FRÈRES (K-III Holdings)	**N.A.**	—
				ALLEN & CO.	**N.A.**	—
				VERONIS SUHLER & ASSOCIATES (News Corp.)	**N.A.**	—
43	**CHIRON (biotechnology) acquires CETUS(biotechnology, pharmaceutical products)**	**$638,750** 1,342%	**Acquisition for stock, December 12**	MORGAN STANLEY	**$3,400**	.53%
				ROBERTSON STEPHENS (Chiron)	**$600**	.09%
				LEHMAN BROTHERS	**$3,550**	.56%
				WASSERSTEIN PERELLA (Cetus)	**$1,775**	.28%
44	**ALCATEL acquires network transmission systems division from ROCKWELL INTERNATIONAL**	**$625,000** N.A.	**Acquisition for cash, August 28**	LAZARD FRÈRES (Alcatel)	**N.A.**	—
				DILLON READ (Rockwell International)	**N.A.**	—
44	**FLEET/NORSTAR FINANCIAL GROUP (banking) and KOHLBERG KRAVIS ROBERTS acquire BANK OF NEW ENGLAND from FEDERAL DEPOSIT INSURANCE CORP.**	**$625,000** N.A.	**Acquisition for cash and preferred stock, July 17**	SALOMON BROTHERS (Fleet/Norstar Financial Group, KKR)	**N.A.**	—
				DEAN WITTER REYNOLDS (FDIC)	**N.A.**	—
46	**WHIRLPOOL (electronics) acquires 47% of WHIRLPOOL INTERNATIONAL from PHILIPS ELECTRONICS (Netherlands), increasing its ownership to 100%**	**$600,000** N.A.	**Acquisition for cash, July 31**	GOLDMAN SACHS (Whirlpool)	**N.A.**	—
				NONE EMPLOYED (Philips Electronics)	—	—
47	**GENERAL MOTORS sells notes**	**$599,598**	**Offering of $600 million 8.80% notes priced at 99.933% due March 1, 2021, March 6**	MERRILL LYNCH*	**$3,300**	.55%**
				FIRST BOSTON		
				J.P. MORGAN SECURITIES		
				MORGAN STANLEY		
				SALOMON BROTHERS		
48	**RWE-AG (German energy and chemical company) acquires VISTA CHEMICAL**	**$590,000** N.A.	**Acquisition for cash, July 15**	GLEACHER	**$2,500**	.42%
				MORGAN GRENFELL (RWE-AG)	**$2,500**	.42%
				MORGAN STANLEY (Vista Chemical)	**$3,159**	.54%
49	**ATLANTIC RICHFIELD acquires the Midway-Sunset oil field and power plant from ORYX ENERGY**	**$588,000** N.A.	**Acquisition for cash, January 31**	NONE EMPLOYED (Atlantic Richfield)	—	—
				GOLDMAN SACHS (Oryx Energy)	**N.A.**	—
50	**BLACKSTONE 1998 TERM TRUST sells common stock††**	**$586,500†**	**Initial public offering of 58.7 million shares, April 23**	PRUDENTIAL SECURITIES*	**$29,325**	5.0%
				KIDDER PEABODY		
				PAINE WEBBER		
				ADVEST		
				GRUNTAL		
				MORGAN KEEGAN		
				CROWELL WEEDON		

N.A. Not available.
*Lead manager.
†Includes over-allotment.
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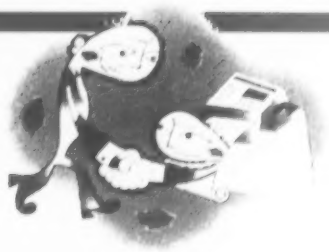
Mergers and acquisitions

Securities offerings



EXPLANATORY NOTES

Deals eligible for the list:

1. U.S. public offerings of securities (except short-term securities) by domestic and foreign corporations, issued under a single prospectus or offering circular.
2. Cash tender offers by domestic corporations or by foreign corporations tendering in the U.S., including those of companies buying in their own securities.
3. Mergers or acquisitions in which the buyer or seller is a U.S. company or part of one. To be eligible, offerings must be effective in 1991 and tender offers must have expired during the year. Mergers and acquisitions are eligible if legally closed during the year or, when not legally closed, if the prospective buyer has paid a portion of the purchase price in cash during the year.

The list excludes short-term financings, government securities, routine debt offerings by financial companies, repackagings of mortgage and other debt, and financings other than public offerings – such as bank borrowings and private placements.

VALUE OF DEAL

Debt assumed in acquisitions is not included in the price. Amounts for cash offerings are the total amounts raised; for tenders the total amount paid. All securities issued in acquisitions or mergers are valued at the market price on the date of closing. When two companies merge through an exchange of stock to form a new company, the company whose stockholders received the larger share of the new company is treated as the buyer, and only those shares issued to stockholders of the other company are valued.

PERCENT OF BOOK VALUE

Book value calculations indicate the price paid (or amount of equity capital raised) per share as a percentage of the shareholders' equity per share of the acquired company or issuer at the end of the quarter preceding the deal.

TRANSACTION

Dates under this heading are effective dates for offerings, expiration dates for tenders, and closing dates for acquisitions and mergers.

FINANCIAL INTERMEDIARIES

For underwritten public offerings, the co-managers are listed and the lead manager is indicated by an asterisk. In the case of acquisitions and mergers, the intermediaries are typically investment banking firms that assisted in the transaction.

FEE

The figures represent the amounts charged by the financial intermediaries assisting the deals. In underwritings, part of the fee is paid to other members of the underwriting syndicate or to dealers other than the co-managers. In mergers and acquisitions, fees paid for financing services are excluded when possible. ■

Can You Find The Drug Pusher In This Picture?

We all know what drug pushers look like. We've seen them often enough on television. But the frightening thing is, a kid is more likely to be pushed into drugs by some innocent-looking classmate.

Studies show that kids are eight times more likely to use drugs if their friends use drugs. As a parent, how do you beat odds like that?

First, realize that your preteen children *are* at risk. Then, find out everything you can about drug abuse. Call **1-800-624-0100** for your free copy of *Growing Up Drug Free*. Next, talk to your kids. Let them know how you feel about drugs. Find out how they feel. Then, and this very important, get to know your kids' friends – and their parents.

In other words, if you're in the picture, chances are a pusher won't be.

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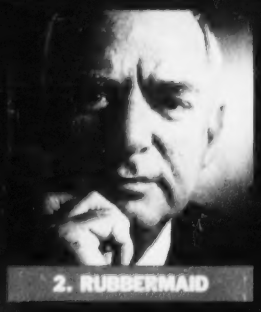
FORTUNE

AMERICA'S MOST ADMIRED CORPORATIONS

1. MERCK


2. RUBBERMAID

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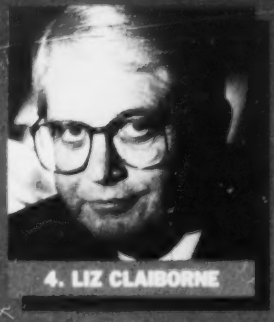
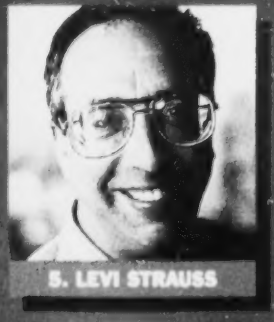
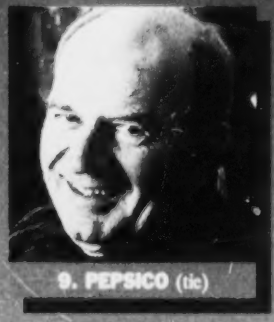

4. LIZ CLAIBORNE

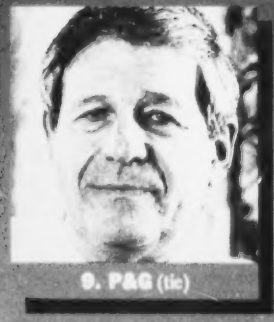

5. LEVI STRAUSS

6. JOHNSON & JOHNSON

7. COCA-COLA

8. 3M


9. PEPSICO (tie)


9. P&G (tie)

How 307 Companies Rank

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FEBRUARY 10, 1992 VOL. 125, NO. 3

FORTUNE

"The only sustainable competitive advantage any business has is its reputation."

PAGE 74

JAPAN

WHAT NOW FOR THE U.S. AND JAPAN 80

George Bush and his pack of CEOs pressed managed trade on the Japanese, but much more is needed to create jobs and boost exports. As the international competitors confronted each other in Tokyo, the outlook for achieving unfettered markets looked grimmer than ever. Avoiding a trade war is the next step. *by Allan T. Demaree*

AUTOMAKERS TALKING PAST EACH OTHER 90

American and Japanese CEOs knock heads.

POLITICS & POLICY

PRESIDENT BUCHANAN? 97

Heck, no. We had one of those already. But Republican challenger Patrick Buchanan, whose America First message plays well among the recession-weary, is making Big Trouble for Big George. The former Nixon speech writer outlines his positions in an interview with FORTUNE.

ABOVE: CEO Richard Teerlink of Harley-Davidson on one of his products, photographed by Chris Sanders.

COVER:
(1: ROY VAGELOS. 2: WALTER WILLIAMS. 3: DAVID GLASS. 5: ROBERT HAAS. PHOTOGRAPHED BY CHRIS SANDERS. 4: JEROME CHAZEN. 9: WAYNE CALLOWAY OF PEPSICO. BY THEO WESTENBERGER —GAMMA/LIAISON. 6: RALPH LARSEN. 7: ROBERTO GOIZUETA. 9: EDWIN ARTZT OF P&G. BY LOUIS PSIHOYOS—MATRIX. 8: L. D. DESIMONE. COURTESY OF 3M

CORPORATE REPUTATIONS/COVER STORIES

AMERICA'S MOST ADMIRED CORPORATIONS 40

In our tenth annual survey, Merck remains dug in at No. 1, and Levi Strauss joins the top ten. The big winner is RJR Nabisco—up 29% as a result of paring debt, going public, and turning a profit. *by Kate Ballen*

AT THE TOP AND BOTTOM OF 307 COMPANIES 41

THE EIGHT KEY ATTRIBUTES OF REPUTATION 42

WHAT THEY DID FOR SHAREHOLDERS 43

BIGGEST GAINERS AND LOSERS 46

HOW ALL 307 COMPANIES RANK 48

THE PAYOFF FROM A GOOD REPUTATION 74

The benefits are substantial for companies large and small. You can attract talented workers, market products more efficiently, and keep customers loyal. *by Susan Caminiti*

"In my generation we had the phrase 'saving for a rainy day.' This generation believed it wouldn't rain again."

PAGE 19

"If the market continues its current boom, I think in the short run we're setting up for a real speculative bust."

PAGE 25

"If he's a car salesman, he's in pretty damn good company."

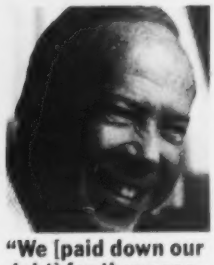
PAGE 80

"I think the President should be a blocking back for American business, and play hardball with Japan."

PAGE 97

"In the past, what sold was the cheapest product. Now the people want quality, warranties, and local service."

PAGE 109



"We [paid down our debt] for three reasons: cash flow, cash flow, and cash flow."

PAGE 118

THE ECONOMY

THE BABY BOOMLET IS FOR REAL 101

The trend started with women beating the biological clock, but it won't stop with them. More young women are dropping out of full-time work to start families. *by Joseph Spiers*

INNOVATION

PRODUCTS TO WATCH 106

A new Swiss watch that incorporates an astrolabe to let you keep track of heavenly bodies, a microwave teakettle with a whistle for high-tech chefs, AT&T's new VideoPhone, which finally lets you see who's calling, and more. *by Alison L. Sprout*

MEXICO

WHAT'S POWERING MEXICO'S SUCCESS 109

First, there's the crackdown on corruption—some business and labor leaders have gone to jail. Then there's the sell-off of state companies. President Salinas means business. *by Nancy J. Perry*

TECHNOLOGY

TECHNOLOGY TO WATCH 117

Moving on an air cushion six feet above water, a weird Russian plane rides the waves faster and with greater fuel efficiency than a ship with the same cargo. *by Gene Bylinsky*

MONEY & MARKETS

THE BIG DRIVE TO REDUCE DEBT 118

With credit tight and bond ratings in the tank, companies are pursuing new strategies to deleverage. But good luck selling assets—unless an overseas buyer turns up. *by Anne B. Fisher*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 10

CEO pay—a hotter issue than ever. Chrysler shines at a dull auto show, help wanted—forensic CPAs, why strikes will hurt everybody, and more.

FORTUNE FORECAST 19

Despite the hit to interest income, the drop in rates is a definite plus for the economy. Job security will build as corporations improve profit margins, and consumers will be able to spend the money they save refinancing mortgages. *by Joseph Spiers*

Economic Intelligence: What the economists don't understand, and why the rich don't love munis.

PERSONAL INVESTING 25

Stocks have been scoring big, yet warning signals are flashing. FORTUNE turns to five of the country's top bargain hunters to discover what to buy now. *by Andrew Evan Serwer*

Also: Smart ways to refinance a mortgage, and Portfolio Talk with Barton Biggs, Morgan Stanley's chief global strategist.

LETTERS TO FORTUNE 33

FORTUNE PEOPLE 141

US West's chief executive is Eagle Who Cares, Hyundai founder Chung eyes South Korea's presidency, and more. *by Andrew Erdman*

KEEPING UP 145

Landlords vs. the Inquisition, the species nobody knows, and other matters. *by Daniel Seligman*

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KEN KATSUMOTO/AP/WIDE WORLD

Demaree in Tokyo with former Commerce Secretary Mosbacher and Bronce Henderson, chairman of Detroit's DCT Companies

IF YOU thought you knew all about President Bush's Asian odyssey with U.S. chief executives, read "What Now for the U.S. and Japan" (page 80). We think you'll find it the Technicolor movie to the black and white snapshots you've seen so far. More than just reporting, the story analyzes the deeper issues. For example, it not only details what the American CEOs charged about Japanese trade barriers, but it also examines what those barriers really are and how much they hurt U.S. companies. And it looks toward the future: How will the Japanese honor the new trade agreements, and what exactly will that do for U.S. corporations and jobs?

GARTH VAUGHN

Associate Editor Kate Ballen

Behind the extraordinary tale stands an extraordinary teller, executive editor Allan T. Demaree, who pursued the story with enthusiastic curiosity coupled with the experienced judgment of one of the best editors in the business. He had remarkable access, interviewing the chief executives not only of Detroit's Big Three but also of Toyota and Honda and ranking Japanese and U.S. government officials as well. Just saying that he was a FORTUNE editor, and one traveling with the presidential party, opened many doors in Japan. Demaree found doing the story, above all, *fun*: fun for the editor to be a reporter again, fun to travel on one of the presidential 747s, to sit in on high-level meetings as one of the four U.S. journalists allowed to do so. He also bore witness to Bush's historic move to put the prestige of the Presidency behind the international success of American business.

Compiled by Associate Editor Kate Ballen from over 8,000 questionnaires sent to company officers, directors, and Wall Street analysts, FORTUNE's annual Survey of Corporate Reputations (page 40), celebrates its tenth anniversary this year. In its decade of existence, the survey has created—as you, our readers, tell us—FORTUNE's most prestigious club. And as Associate Editor Susan Caminiti reports (page 74), membership in that club satisfies more than a company's vanity. A sterling reputation makes it easier to find opportunities abroad; it attracts good employees; it often commands a premium price for a company's products. *That's* getting respect.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in May and October, by The Time Inc. Magazine Company. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Joseph A. Ripp, Treasurer; Harry M. Johnston, Secretary. Subscriptions: U.S., possessions: one year (27 issues) $49.95; Canada: one year (27 issues) $53.73. Second-class postage paid at New York, NY, and at additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, PO. Box 30604, Tampa, Fla. 33630-0604. Customer inquiries: FORTUNE, PO. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000.
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event. Hoping to forestall any further Japan-bashing, the Japanese kept a low profile and displayed far fewer new models than they did at Tokyo's October motor show. **Honda Motor** held back the introduction of its new Civic-based sports car, a racy two-seater. **Mazda** unveiled the MX-6 coupe, which will be built in the company's Flat Rock, Michigan, plant. **Nissan** presented the Quest minivan, which Ford will assemble in Avon Lake, Ohio. **Toyota** showed only one new model, the Camry SE sports coupe being made in Georgetown, Kentucky. Its base price: $17,000.

Absent the usual glitz and glamour, it was left to Chrysler to provide the show's biggest hits. After failing for more than a decade to develop an all-new car model, it unveiled four: the 1993 Dodge Viper RT/10, a $50,000 two-seat roadster, and three of its 1993-model midsize cars, to be named Dodge Intrepid, Eagle Vision, and Chrysler New Yorker. The cars, which will cost $15,000 to $30,000, were developed in 39 months, a record for a U.S. automaker. Production starts this summer at Chrysler's plant in Bramalea, Ontario.

Chrysler also produced the show's publicity coup: President Robert Lutz, 59, introduced the all-new Jeep Grand Cherokee station wagon by driving it through a plate-glass window. Dealers get these bigger Cherokees in April. Price: up to $25,000. **– Alex Taylor III**

MORE BUSINESS CLASS IN U.S.

■ **AMR**'s American Airlines has hatched a plan to make more money by carrying fewer passengers per plane on its nine profitable daily flights between New York and Los Angeles. Starting February 4, the carrier will import a proven profit producer from its international service—business class. American has refurbished the planes it will use by ripping out one row of first-class seats and 12 rows of coach seats to create a new cabin. This will cut full capacity on a DC-10 from 290 seats to 237. In addition to more room, separate check-in, and priority baggage pickup, business-class fliers will have what the company calls "an exclusive lavatory." One-way price: $998, compared with $752 for a full-fare coach seat and $1,325 for first.

The airline figures it can sell more of those first-class seats if they aren't filled with frequent fliers upgrading from coach. Instead, upgrades will now go to business class.

TWA already has a business class for domestic flights. But the carrier's strategy flies in the opposite direction from American's: TWA is discounting business-class fares on flights between some 60 U.S. cities. **UAL**'s United and **Delta Air Lines** have some domestic business-class seats, but most are on domestic legs of international flights.

There'll be fewer discount fares in all classes this year. The carriers took a drubbing in 1991, leading American's Chief Executive Robert Crandall to observe, "The best thing you can say about last year is that it's over." **– Wilton Woods**

American Airlines CEO Robert Crandall

DANNY TURNER

BIGGEST CORPORATE LOSERS—SO FAR

Company	Year	Loss in billions
1. Texaco	1987	$4.4
2. LTV	1986	$3.3
3. LTV	1988	$3.2
4. IBM	1991	$2.8
5. Continental Airlines Holdings	1990	$2.3
6. Philips N.V.	1990	$2.3
7. Schlumberger*	1986	$2.0
8. General Motors	1990	$2.0
9. USX	1986	$1.8
10. Chrysler	1980	$1.7
11. Occidental Petroleum	1990	$1.7
12. AT&T	1988	$1.7

*Netherlands Antilles oil field services company

MARIA KEHAYAN FOR FORTUNE

GM TO BE TOPS?

■ When **General Motors**' 1991 results come in, the company may win the questionable distinction of having run up the biggest annual loss ever by a shareholder-owned company. GM is expected to post a 1991 loss of $3 billion. Write-offs from announced plant closings could push that to $5 billion. **IBM**'s $2.8 billion 1991 loss reflects restructuring charges and a dismal year for sales.

U.S. companies dominate the list of record losers. Of those shown above, only two are foreign: **Philips**, the Dutch electronics giant, and **Schlumberger**, an oil field services company that is headquartered in New York but incorporated in the Netherlands Antilles. But if nationalized companies were included, GM would look a tad better. In 1990, not-yet-privatized **British Coal** dug an $8.2 billion hole, and the German **Bundesbahn** rail system marked up more than $3 billion in losses. And those companies at least have honest management. Under a corrupt military dictatorship in the early 1980s, Argentina's **YPF**—an oil monopoly that ran everything from production facilities to service stations—lost $12 billion in just three years. Neither the banks that loaned YPF billions nor the civilian government now stuck with trying to privatize the outfit can prove where all the money went. **– W.W.**

HELP WANTED: FORENSIC CPAs

■ Tom Taylor used to pack a .357 magnum; now he pushes a pencil. Taylor, 37, for two years an FBI agent, is a forensic accountant, somebody who sniffs through company books to ferret out white-collar crime.

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DENNIS J. WHITE
Director, Animal Protection Division
American Humane Association
Englewood, Colorado

START A REVOLUTION

The underlying message in "Gay in Corporate America" (December 16) was that negative attitudes toward gays will change only when more of us are willing to stand up and proclaim who we really are. Unlike ethnic minorities, gays have a choice about whether to be visible in the workplace. When a straight colleague discovers that the fellow in the next office or the woman who happens to be his boss is "one of them," there is usually a revolution in his beliefs about gay people. Coming out of the closet is our single most powerful weapon in fighting prejudice and homophobia.

ROBERT RISTELHUEBER
Santa Clara, California

ENGINE DESIGN SET STRAIGHT

"A U.S.-Style Shakeup at Honda" (December 30) was excellent and informative, but it is incorrect in saying that Honda set a design standard when in 1972 it put the engine in sideways in small cars to create more room for passengers. British Motor Corp. (now Austin Rover Group) introduced such a design in 1959 in its Morris Mini Motor, a minuscule cult car still in production in Birmingham in Britain.

J. B. HENRIQUES JR.
Chantilly, Virginia

OFF THE BEAM

Your Companies to Watch article on Sunrise Technologies (December 30) implies that Sunrise owns the patents to a new laser it developed that is used in dentistry. In fact, American Dental Laser owns all patent rights and has granted Sunrise the right to manufacture this laser.

DANIEL S. GOLDSMITH
President and CEO
American Dental Laser
Troy, Michigan

CORRECTION

In "The Best & Worst Stocks of 1991" (January 27), we failed to show a 64-cent dividend paid by Ameritrust, and Comnet was incorrectly listed as having paid a dividend in 1991. FORTUNE *regrets the errors.*

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AMERICA'S MOST ADMIRED CORPORATIONS

Merck has dug in at No. 1, and Levi Strauss joins the top ten. The big winner is RJR Nabisco—up 29% as a result of paring debt, going public, and turning a profit. ■ *by Kate Ballen*

TAKE IT from the folks who should know: A golden reputation requires a lot of burnishing. Over the ten-year life of FORTUNE's annual survey of corporate reputations, the most lauded companies have worked their way to the top with excellent management, high-quality products, and superior financial performance. Then they sweat to stay there. Says Ralph Larsen, CEO of Johnson & Johnson, No. 6 this year: "Reputations reflect behavior you exhibit day in and day out through a hundred small things. The way you manage your reputation is by always thinking and trying to do the right thing every day."

The top ten is an elite club, with just 30 corporate members over the decade. Though the roster changes annually, Merck has made the cut every year. Next in line are 3M and Rubbermaid, each with seven years under its belt. Coca-Cola is a repeat performer for six. The newest recruit is Levi Strauss, which shows up in the inner circle for the first time this year.

No company has won greater recognition for tending its good name than Merck. For the sixth straight year this wonder drug of a pharmaceutical giant has earned the highest rating among 307 major companies. Not only that: In 1991 the company racked up its best overall score ever. Rated on a scale of zero to ten in eight categories, Merck ranked first in seven measures and averaged a dizzying 9.02, the highest score of any company in the ten years of the survey.

Others of the Big Ten also have plenty to crow about. Despite a recession that has turned free-spending Americans into terrified tightwads, all of the most admired make consumer products. Levi Strauss, with record earnings and sales this past year, became the first private company to reach the top ten, vaulting 15 places to No. 5. Another pillar of the rag trade, Liz Claiborne, jumped to No. 4 from No. 10 last year, and Wal-Mart, having finally surpassed Sears Roebuck as the nation's largest retailer, popped up a notch to No. 3. Johnson & Johnson rose two places to No. 6, its highest level since 1984.

Second-place finisher Rubbermaid kept its bounce despite the end of Stanley Gault's 11-year reign as CEO in May. Says Walter Williams, Gault's carefully chosen successor: "We worked very hard to make sure the outside world knew about the change. We spent a lot of time talking to the financial community to make sure no one had any questions. The transition from Gault to Walt will go down as one of the smoothest CEO changes ever."

If you hang around where the air is rare, you have to expect a few nosebleeds. Procter & Gamble tumbled six notches to No. 9 as the recession washed some earnings away. A little of PepsiCo's fizz went flat, and the company fell from No. 5 to tie for No. 9. Its Frito-Lay unit eliminated 1,800 jobs and took a $91.4 million charge against pretax earnings in the third quarter. Three quarters of earnings declines, the first since 1985, also helped push 3M from No. 6 to No. 8 this year, which was no way to welcome L. D. DeSimone,

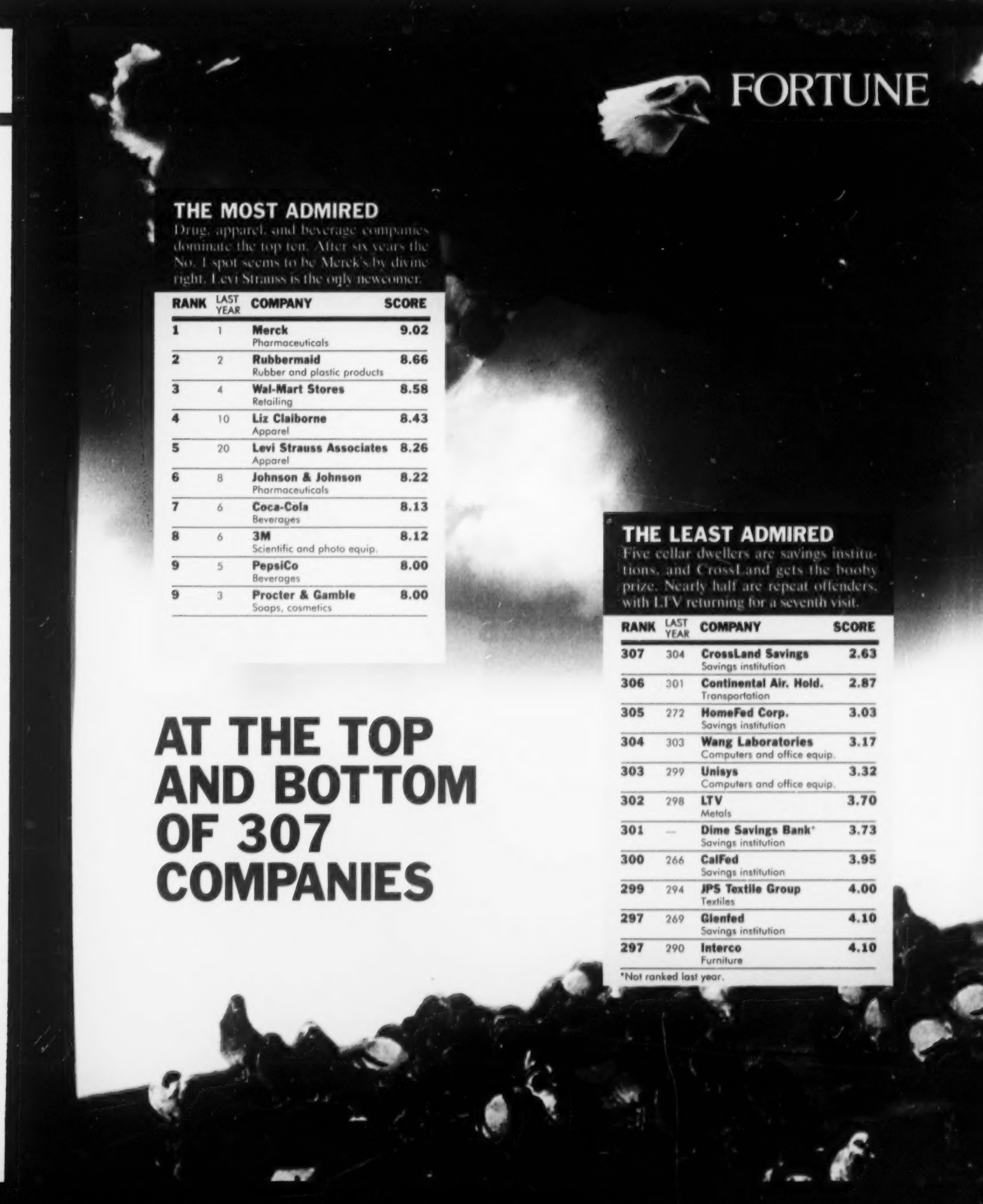
REPORTER ASSOCIATE *Laurie Kretchmar*

HOW IT WAS DONE

■ The tenth annual Corporate Reputations Survey includes 307 companies in 32 industry groups that appeared in the 1991 FORTUNE 500 and FORTUNE Service 500 directories. More than 8,000 senior executives, outside directors, and financial analysts were asked to rate the ten largest companies in their own industry (or sometimes a shorter list) on eight attributes of reputation, using a scale of zero (poor) to ten (excellent). The attributes were quality of management; quality of products or services; innovativeness; long-term investment value; financial soundness; ability to attract, develop, and keep talented people; responsibility to the community and the environment; and wise use of corporate assets.

FORTUNE 500 companies are assigned to a group based on the activity that contributed most to their 1990 industrial sales; Service 500 companies to a group based on the activity contributing most to their service sales. All companies made public filings of key financial information.

ELECTRONICALLY IMAGED COMPOSITES BY LINDA ECKSTEIN



THE MOST ADMIRED

Drug, apparel, and beverage companies dominate the top ten. After six years the No. 1 spot seems to be Merck's by divine right. Levi Strauss is the only newcomer.

RANK	LAST YEAR	COMPANY	SCORE
1	1	**Merck** Pharmaceuticals	9.02
2	2	**Rubbermaid** Rubber and plastic products	8.66
3	4	**Wal-Mart Stores** Retailing	8.58
4	10	**Liz Claiborne** Apparel	8.43
5	20	**Levi Strauss Associates** Apparel	8.26
6	8	**Johnson & Johnson** Pharmaceuticals	8.22
7	6	**Coca-Cola** Beverages	8.13
8	6	**3M** Scientific and photo equip.	8.12
9	5	**PepsiCo** Beverages	8.00
9	3	**Procter & Gamble** Soaps, cosmetics	8.00

AT THE TOP AND BOTTOM OF 307 COMPANIES

THE LEAST ADMIRED

Five cellar dwellers are savings institutions, and CrossLand gets the booby prize. Nearly half are repeat offenders, with LTV returning for a seventh visit.

RANK	LAST YEAR	COMPANY	SCORE
307	304	**CrossLand Savings** Savings institution	2.63
306	301	**Continental Air. Hold.** Transportation	2.87
305	272	**HomeFed Corp.** Savings institution	3.03
304	303	**Wang Laboratories** Computers and office equip.	3.17
303	299	**Unisys** Computers and office equip.	3.32
302	298	**LTV** Metals	3.70
301	—	**Dime Savings Bank*** Savings institution	3.73
300	266	**CalFed** Savings institution	3.95
299	294	**JPS Textile Group** Textiles	4.00
297	269	**Glenfed** Savings institution	4.10
297	290	**Interco** Furniture	4.10

*Not ranked last year.

QUALITY OF MANAGEMENT	
MOST ADMIRED	SCORE
Wal-Mart Stores	9.27
Rubbermaid	9.22
Merck	9.19
LEAST ADMIRED	**SCORE**
CrossLand Savings	2.88
HomeFed	3.23
Continental Airlines/Salomon	3.25

FINANCIAL SOUNDNESS	
MOST ADMIRED	SCORE
Merck	9.43
Wal-Mart Stores	9.00
Coca-Cola	8.91
LEAST ADMIRED	**SCORE**
Continental Airlines Hold.	1.22
CrossLand Savings	1.50
HomeFed	1.74

QUALITY OF PRODUCTS OR SERVICES	
MOST ADMIRED	SCORE
Merck	9.26
Rubbermaid	8.97
Procter & Gamble	8.81
LEAST ADMIRED	**SCORE**
Wang Laboratories	3.99
CrossLand Savings	4.07
Continental Airlines Hold.	4.16

ABILITY TO ATTRACT, DEVELOP, AND KEEP TALENTED PEOPLE	
MOST ADMIRED	SCOR
Merck	9.0
Wal-Mart Stores	8.6
Liz Claiborne	8.3
LEAST ADMIRED	**SCOR**
CrossLand Savings	2.2
Continental Airlines Hold.	2.5
Wang Laboratories	2.7

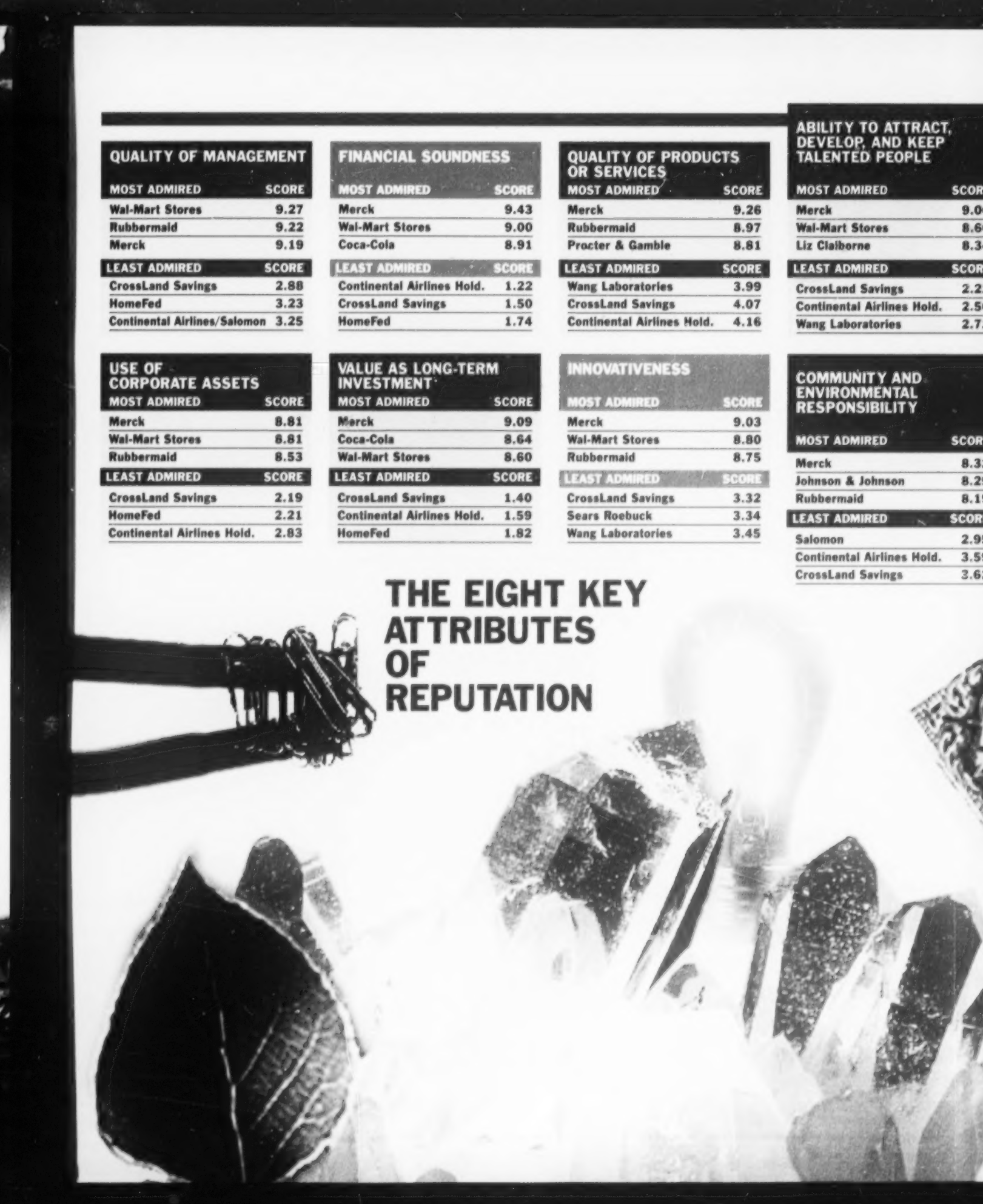
USE OF CORPORATE ASSETS	
MOST ADMIRED	SCORE
Merck	8.81
Wal-Mart Stores	8.81
Rubbermaid	8.53
LEAST ADMIRED	**SCORE**
CrossLand Savings	2.19
HomeFed	2.21
Continental Airlines Hold.	2.83

VALUE AS LONG-TERM INVESTMENT	
MOST ADMIRED	SCORE
Merck	9.09
Coca-Cola	8.64
Wal-Mart Stores	8.60
LEAST ADMIRED	**SCORE**
CrossLand Savings	1.40
Continental Airlines Hold.	1.59
HomeFed	1.82

INNOVATIVENESS	
MOST ADMIRED	SCORE
Merck	9.03
Wal-Mart Stores	8.80
Rubbermaid	8.75
LEAST ADMIRED	**SCORE**
CrossLand Savings	3.32
Sears Roebuck	3.34
Wang Laboratories	3.45

COMMUNITY AND ENVIRONMENTAL RESPONSIBILITY	
MOST ADMIRED	SCOR
Merck	8.3
Johnson & Johnson	8.2
Rubbermaid	8.1
LEAST ADMIRED	**SCOR**
Salomon	2.9
Continental Airlines Hold.	3.5
CrossLand Savings	3.6

THE EIGHT KEY ATTRIBUTES OF REPUTATION



who replaced Allen Jacobson as CEO. Global warrior Coca-Cola dropped a notch to No. 7 but for the first time in five years had a higher ranking than Pepsi. Strong overseas earnings helped Coke grab the gold for all financial measures in its industry.

The award for the most improved camper goes to RJR Nabisco Holdings with its spectacular 29% score increase, which pushed it to No. 107 from No. 261. In the three years since its leveraged buyout redefined the word "greed," RJR has halved its debt to $14.4 billion, sold 45% of itself back to the public, received an investment grade rating on half its formerly junk bonds, and turned a profit. Says CEO Louis Gerstner: "What I'm most proud of is that unlike some LBOs, we've continued to protect, build, and strengthen our brands." Practically the entire 11% increase in food sales in the first nine months of 1991 came from new products. But the company still has a way to go: Just before the infamous buyout, RJR was No. 17.

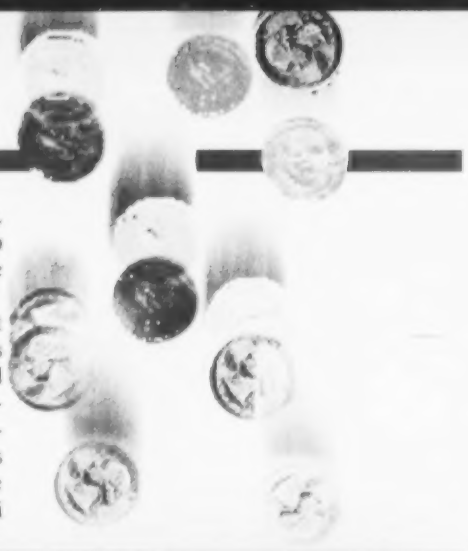
WHAT DOES a corporate reputation consist of? This year, 82% of the directors, senior executives, and analysts that FORTUNE polls cited quality of management as paramount. Quality of products or services came next with 63% of the vote. But Merck pointedly insists that its secret lies in attracting, developing, and keeping good people—and 30% of the survey respondents agree that the quality of the work force is the most important attribute of reputation. At Merck promotions and salary increases for a senior executive are affected by how many people that person has recruited and trained. Says Richard Markham, head of worldwide marketing: "We look at recruiting with the same kind of intensity as we do discovering new molecules in the lab."

A company's financial performance also has a halo effect on its reputation. Each of the most admired (see chart) has consistently produced first-rate returns for investors, while the least admired have not. Returns for some of the bottom group might look high in 1991, but only because the stocks took off from a sea-level base.

Most of the top ten also have consistent and enviable growth records. For five years running, Rubbermaid has met or exceeded its corporate goal of 15% annual profit increases, and Wal-Mart has outsold and outgrown its competitors with annual earnings expansions of at least 20% for the past five years. Robert Haas, the CEO of Levi Strauss, believes his company has soared in the survey because people are noticing its rapid debt reduction and five-year streak of record sales increases. He says, "Reputation definitely tilts in favor of financial success."

Even in a recession the folks at the top remain big spenders, with plump R&D and capital budgets. Says Walter Williams of Rubbermaid, which increased its capital spending 30% to some $130 million last year: "Our results are strong because we decided in 1990 that 1991 would be dismal. So we started accelerating the introduction of 300 new products and promoted them relentlessly. We deal with a downturn by continuing to invest heavily." Wal-Mart opened more than 140 stores, including some in such economically parched states as Connecticut, and expanded its grocery business. CEO David Glass gloats just a bit: "When times are tough, people who may traditionally shop somewhere else come to Wal-Mart."

The most admired compa-



MOST ADMIRED

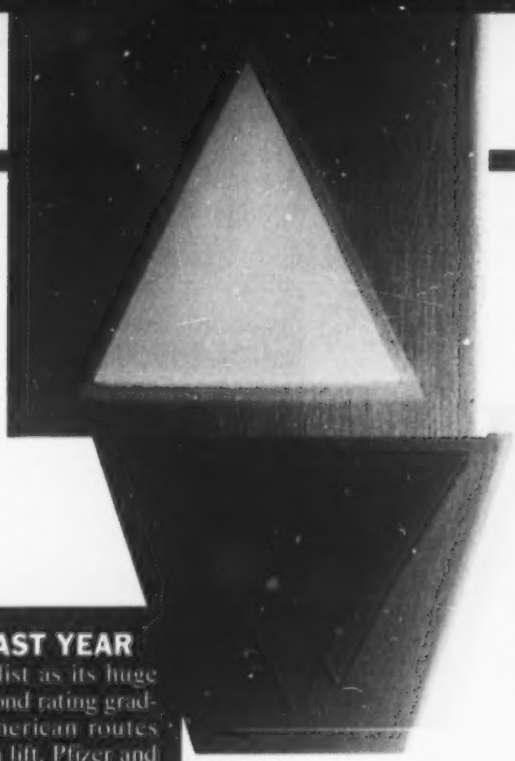
COMPANY	TOTAL RETURN TO INVESTORS ANNUAL AVERAGE 1981–91	1991
Merck	31.4%	89.2%
Rubbermaid	34.8%	84.3%
Wal-Mart Stores	46.8%	95.4%
Liz Claiborne	43.5%	43.1%
Levi Strauss Associates	N.A.	N.A.
Johnson & Johnson	22.8%	62.3%
Coca-Cola	35.0%	75.3%
3M	17.8%	15.0%
PepsiCo	27.0%	32.3%
Procter & Gamble	20.9%	11.0%
S&P 500	17.5%	30.5%

LEAST ADMIRED

COMPANY	TOTAL RETURN TO INVESTORS ANNUAL AVERAGE 1981–91	1991
CrossLand Savings	N.A.	-95.7%
Continental Airlines Holdings	-22.2%	-75.0%
HomeFed	N.A.	-93.7%
Wang Laboratories	-15.6%	9.5%
Unisys	-5.8%	65.0%
LTV	-25.4%	62.6%
Dime Savings Bank of New York	N.A.	42.1%
CalFed	N.A.	-48.1%
JPS Textile Group	N.A.	N.A.
Glenfed	N.A.	-27.5%
Interco	-15.2%	81.4%
S&P 500	17.5%	30.5%

WHAT THEY DID FOR SHAREHOLDERS

Total return includes stock price changes and reinvested dividends. Companies marked N.A. were not public for the full decade. Impressive one-year gains for some least admired come off a low base.



BIGGEST GAINERS AND LOSERS

BIGGEST GAINS OVER LAST YEAR

RJR leads the most improved list as its huge LBO debt shrinks and its junk bond rating gradually improves. New Latin American routes bought from Pan Am give UAL a lift. Pfizer and BankAmerica show much self-improvement.

COMPANY	POINT CHANGE	PERCENT	SCORE
RJR Nabisco	1.49	29.3%	6.58
UAL	1.18	23.0%	6.31
Hanson Industries	0.93	18.0%	6.11
Pfizer	0.92	13.5%	7.73
Lockheed	0.84	15.2%	6.37
BankAmerica	0.83	13.5%	6.96
VF	0.83	13.6%	6.93
Merrill Lynch	0.78	14.8%	6.05
Avon Products	0.77	15.7%	5.69
Chemical Banking Corp.	0.65	15.0%	4.99

BIGGEST LOSSES OVER LAST YEAR

HomeFed has dug itself deeply into a hole with real estate loans. The Treasury scandal embarrasses Salomon; and Security Pacific, after racking up second- and third-quarter losses, needs its new merger mate, BankAmerica, badly.

COMPANY	POINT CHANGE	PERCENT	SCORE
HomeFed	-1.85	-37.9%	3.03
Salomon	-1.28	-22.1%	4.51
Security Pacific	-1.23	-19.3%	5.14
Avondale Industries	-1.14	-20.0%	4.56
Shell Oil	-1.05	-13.3%	6.83
CalFed	-1.02	-20.5%	3.95
Tenneco	-0.94	-15.4%	5.15
Westinghouse Electric	-0.93	-14.1%	5.65
Citicorp	-0.91	-15.1%	5.11
J.C. Penney	-0.85	-13.0%	5.68

nies just never stop tweaking their products, which were pretty good to begin with. P&G, for example, has reconfigured Luvs and Pampers to fit every bottom known to babyhood, and its detergents are now available in luggable concentrate size in over 30 countries. Says CEO Edwin Artzt: "Concentrate detergent is a real win for consumers. It's easier to carry, and it's good for the environment because it reduces the amount of packaging and chemicals per washload."

Johnson & Johnson has accelerated the growth of its over-the-counter business by expanding Tylenol cold and flu lines and launching drugs like Monistat 7, an antifungal cream once available only by prescription. Today 30% of J&J revenues come from products introduced in the past five years. Last year Pepsi's snack food division spent as much as it has in the past seven years combined on such quality improvements as reducing the number of broken chips in Ruffles. Says CEO Wayne Calloway: "We start with the mind-set that innovation and continuous improvement are critical."

Companies that rest on their laurels don't stay on top for long. Take IBM, which was dethroned as the most admired company by Merck in 1987 after four years of wearing the crown. It has been wending its way downward ever since as its hold on the marketplace and the price of its stock slip. This year, with low scores in innovation and wise use of assets, Big Blue tumbled from No. 32 to No. 118.

THE LEAST ADMIRED list tends to be littered with repeat offenders, companies in Chapter 11, and big-time money losers. LTV (No. 302), which owns LTV steel and is in Chapter 11 bankruptcy proceedings, has been among the least admired for seven years running. Wang (No. 304) and Unisys (No. 303) are three-time losers, while Continental Airlines (No. 306), still in Chapter 11, is parked on the list for the second year in a row—make that five if you count its predecessor, Texas Air. New arrivals are Interco (No. 297), now in Chapter 11, and JPS Textile Group (No. 299).

Five of the bottom group are savings institutions. Some, like CrossLand (No. 307) and HomeFed (No. 305), have so little capital and so many bad loans that their chances of climbing out of the cellar as independent entities are slim. The government is currently shopping around for buyers for CrossLand. Says Gary Gordon, an analyst with Paine Webber: "No question about it. These two will be on the most admired list of bankruptcy lawyers in 1992." Indeed, Goldome and Great American Bank, which graced the bottom last year, failed in 1991 and were taken over by the government. Dime Savings Bank of New York (No. 301), CalFed (No. 300), and Glenfed (No. 297) also lurk about glumly, weighted down with the cement overshoes of bad real estate loans.

Corporate reputation is a fragile and surprising asset. Of the 47 companies on the least admired list for the last decade, many, like American Motors and Pan Am, have been swallowed up by other companies or disappeared into bankruptcy. But some 20%, like BankAmerica, now No. 66 and third in its industry, have painfully clambered up. Fortunately, perceptions can be changed, albeit slowly, by the reality of an improving situation. Which is why a hopeful Richard Parsons, CEO of Dime Savings Bank, says, "Adversity builds character." And character builds reputations.

HOW ALL 307 COMPANIES RANK

Here are their scores, covering eight attributes, on a scale from zero, least admired, to ten, most admired.

307. **CrossLand Savings** 2.63
306. **Continental Airlines** 2.87
305. **HomeFed** 3.03
304. **Wang Labs** 3.17
303. **Unisys** 3.32
302. **LTV** 3.70
301. **Dime** 3.73
300. **CalFed** 3.95
299. **JPS Textile Group** 4.00
297. **Glenfed** 4.10
297. **Interco** 4.10
295. **Amoskeag** 4.24
295. **Sears Roebuck** 4.24
294. **Chrysler** 4.27
293. **National Steel** 4.28
292. **Equitable Life** 4.30
291. **Burlington** 4.33
290. **USAir** 4.47
289. **Champion** 4.49
288. **Salomon** 4.51
287. **Maxxam** 4.52
286. **Hartmarx** 4.54
284. **Avondale** 4.56
284. **McDonnell Douglas** 4.56
282. **Boise Cascade** 4.64
282. **Travelers Corp.** 4.64
281. **Travelers** 4.65
280. **Chase Manhattan** 4.68
279. **Occidental Petr.** 4.70
278. **Mfrs. Hanover** 4.71
277. **USG** 4.74
276. **FirstFed Mich. Corp.** 4.81
274. **Navistar** 4.83
274. **Northwest Airlines** 4.83
273. **Bethlehem Steel** 4.84
272. **Grumman** 4.85
271. **West Point-Pepperell** 4.86
270. **A&P** 4.91
268. **Stone Container** 4.95
268. **Wickes** 4.95
267. **Chemical Banking** 4.99
265. **Grt. Am. Mgt. & Inv.** 5.01
265. **Inland Steel** 5.01
264. **Holnam** 5.02
263. **Northrop** 5.03
262. **Penn Central** 5.05
261. **Citicorp** 5.11
260. **Security Pacific** 5.14
259. **Tenneco** 5.15
258. **DWG** 5.21
257. **Southdown** 5.22
256. **Sequa** 5.25
255. **Aetna** 5.32
254. **Crystal Brands** 5.34
251. **Borden** 5.37
251. **Cigna** 5.37
251. **Gitano Group** 5.37
250. **Union Carbide** 5.42
249. **McDermott** 5.43
248. **W.R. Grace** 5.47
247. **USX** 5.50
246. **Sun** 5.51
245. **Allied-Signal** 5.53
244. **John Hancock** 5.54
242. **Harsco** 5.56
242. **Time Warner** 5.56
241. **Echlin** 5.58
240. **Polaroid** 5.60
239. **Lafarge** 5.63
236. **Asarco** 5.64
236. **Tektronix** 5.64
236. **Textron** 5.64
234. **Aetna Life** 5.65
234. **Westinghouse** 5.65
231. **American Stores** 5.66
231. **James River** 5.66
231. **Sealy Holdings** 5.66
229. **ITT** 5.68
229. **J.C. Penney** 5.68
227. **Arvin Industries** 5.69
227. **Avon Products** 5.69
224. **Cummins Engine** 5.73
224. **Fruit of the Loom** 5.73
224. **Standard Commercial** 5.73
222. **Carlisle** 5.76
222. **Lyondell Petrochem.** 5.76
219. **Kellwood** 5.77
219. **Kmart** 5.77
219. **Union Texas Petr.** 5.77
218. **Kroger** 5.78
214. **American Financial** 5.79
214. **General Dynamics** 5.79
214. **Goodyear** 5.79
214. **Nynex** 5.79
213. **Weyerhaeuser** 5.80
210. **Fleetwood** 5.82
210. **Pitney Bowes** 5.82
210. **Premark** 5.82
207. **Georgia-Pacific** 5.83
207. **NCH** 5.83
207. **Peter Kiewit Sons'** 5.83
206. **Leslie Fay** 5.84
205. **Owens-Illinois** 5.85
204. **Nerco** 5.86
203. **Amax** 5.88
201. **Connecticut General** 5.89
201. **Newmont Mining** 5.89
198. **CSX** 5.92
198. **Phillips-Van Heusen** 5.92
198. **Safeway** 5.92
196. **General Motors** 5.93
196. **Raychem** 5.93
194. **Alberto-Culver** 5.94
194. **Interface** 5.94
192. **Cone Mills** 5.95
192. **McGraw-Hill** 5.95
190. **Honeywell** 5.96
190. **Standard Products** 5.96
189. **Dresser** 5.97

Least Admired 3.0 3.5 4.0 4.5 5.0 5.5

187. **Digital Equipment** 6.00
187. **Vulcan Materials** 6.00
185. **Lear Seating** 6.02
185. **TIAA** 6.02
184. **NCR** 6.03
183. **TRW** 6.04
179. **American Standard** 6.05
179. **Hanna (M.A.)** 6.05
179. **Merrill Lynch** 6.05
179. **Rockwell** 6.05
178. **Coca-Cola Ent.** 6.06
177. **Phillips Petr.** 6.08
176. **Hanson** 6.11
175. **Texas Instr.** 6.12
172. **Mead** 6.13
172. **Tyco Laboratories** 6.13
172. **United Technologies** 6.13
170. **Helene Curtis** 6.16
170. **United Telecom.** 6.16
169. **J.E. Seagram** 6.17
168. **EG&G** 6.18
167. **Eastman Kodak** 6.19
164. **Brunswick** 6.21
164. **Masco** 6.21
164. **Outboard Marine** 6.21
162. **Clorox** 6.22
162. **Louisiana Land** 6.22
161. **Ralston Purina** 6.23
158. **Baker Hughes** 6.25
158. **Dibrell Brothers** 6.25
158. **Southern** 6.25
157. **May Stores** 6.26
155. **American Express** 6.28
155. **Universal** 6.28
154. **Whirlpool** 6.29
153. **UAL** 6.31
152. **Marriott** 6.32
149. **Cooper Industries** 6.33
149. **Enron** 6.33
149. **Trinity Industries** 6.33
147. **Ford Motor** 6.34
147. **Hoechst Celanese** 6.34
145. **Parker Hannifin** 6.35
145. **Scott Paper** 6.35
143. **Crown Cork & Seal** 6.36
143. **Texaco** 6.36
140. **Adolph Coors** 6.37
140. **Brown-Forman** 6.37
140. **Lockheed** 6.37
139. **American Cyanamid** 6.38
138. **Phelps Dodge** 6.39
134. **Baxter International** 6.40
134. **FNMA** 6.40
134. **Lorillard** 6.40
134. **Oryx Energy** 6.40
133. **Stanhome** 6.42
130. **Amer. Home Prod.** 6.43
130. **Ingersoll-Rand** 6.43
130. **Union Pacific** 6.43
129. **Black & Decker** 6.44
128. **Dana** 6.45
127. **Becton Dickinson** 6.46
124. **BASF** 6.47
124. **Fleming** 6.47
124. **Kimball** 6.47
121. **Campbell Soup** 6.48
121. **Raytheon** 6.48
121. **Super Valu Stores** 6.48
120. **McKesson** 6.49

118. **IBM** 6.50
118. **Wells Fargo** 6.50
117. **Paccar** 6.51
116. **Hon Industries** 6.52
113. **Bayer USA** 6.53
113. **Compaq Computer** 6.53
113. **New York Life** 6.53
111. **MCI Communications** 6.54
111. **Owens-Corning** 6.54
110. **Chevron** 6.56
109. **Upjohn** 6.57
107. **Johnson Controls** 6.58
107. **RJR Nabisco** 6.58
106. **Caterpillar** 6.59
105. **Eaton** 6.62
103. **American Brands** 6.63
103. **Freeport-McMoRan** 6.63
101. **Armstrong** 6.64
101. **Bausch & Lomb** 6.64
100. **Times Mirror** 6.66
98. **Tribune** 6.67
98. **Xerox** 6.67
97. **H.F. Ahmanson** 6.68
96. **Burlington Resources** 6.69
95. **Metropolitan Life** 6.73
92. **Archer Daniels** 6.76
92. **Great Western** 6.76
92. **Stanley Works** 6.76
90. **International Paper** 6.77
90. **Prudential** 6.77
89. **US West** 6.78
88. **NationsBank*** 6.79
86. **Colgate-Palmolive** 6.80
86. **Warner-Lambert** 6.80
85. **Reynolds Metals** 6.81
84. **Dayton Hudson** 6.82
82. **GTE** 6.83
82. **Shell Oil** 6.83
81. **Exxon** 6.84
79. **Bandag** 6.85
79. **New York Times** 6.85
78. **Sun Microsystems** 6.86
77. **Alcoa** 6.87
75. **Martin Marietta** 6.93
75. **VF** 6.93
72. **Donnelley (R.R.)** 6.94
72. **Monsanto** 6.94
72. **Unilever U.S.** 6.94
69. **AMR** 6.95
69. **Knight-Ridder** 6.95
69. **Leggett & Platt** 6.95
66. **Apple Computer** 6.96
66. **BankAmerica** 6.96
66. **Federal Express** 6.96
65. **Mobil** 6.97
64. **Southwestern Bell** 6.98
62. **Illinois Tool Works** 6.99
62. **Springs Industries** 6.99

59. **Dow Jones** 7.04
59. **Emerson Electric** 7.04
59. **La-Z-Boy Chair** 7.04
56. **AIG** 7.05
56. **Bankers Trust** 7.05
56. **Schulman (A.)** 7.05
55. **H.J. Heinz** 7.06
54. **Deere** 7.07
51. **Gannett** 7.12
51. **Gillette** 7.12
51. **PPG** 7.12
49. **Ameritech** 7.14
49. **Reader's Digest** 7.14
48. **Int'l Flavors & Frag.** 7.15
47. **Cooper Tire** 7.16
46. **Morgan Stanley** 7.18
45. **Sara Lee** 7.19
44. **UST** 7.21
41. **Bell Atlantic** 7.22
41. **Pacific Gas & Elec.** 7.22
41. **Philip Morris** 7.22
39. **Amoco** 7.24
39. **Golden West** 7.24
38. **Northwestern Mutual** 7.26
37. **Delta Air Lines** 7.27
36. **ConAgra** 7.28
35. **Pacific Telesis** 7.29
33. **AT&T** 7.30
33. **Schering-Plough** 7.30
32. **BellSouth** 7.33
31. **Hewlett-Packard** 7.34
30. **Arco** 7.37
29. **Shaw Industries** 7.40
28. **Motorola** 7.42
26. **Abbott Laboratories** 7.44
26. **Dow Chemical** 7.44

25. **Harley-Davidson** 7.50
24. **United Parcel** 7.52
23. **General Mills** 7.55
21. **Du Pont** 7.59
21. **Herman Miller** 7.59
20. **General Electric** 7.67
19. **Kimberly-Clark** 7.71
18. **Corning** 7.72
17. **Pfizer** 7.73
16. **Anheuser-Busch** 7.75
15. **J.P. Morgan** 7.79
14. **Eli Lilly** 7.89
13. **Berkshire Hathaway** 7.92
12. **Boeing** 7.98
11. **Bristol-Myers Squibb** 7.99

9. **PepsiCo** 8.00
9. **Procter & Gamble** 8.00
8. **3M** 8.12
7. **Coca-Cola** 8.13
6. **Johnson & Johnson** 8.22
5. **Levi Strauss** 8.26
4. **Liz Claiborne** 8.43

3. **Wal-Mart Stores** 8.58
2. **Rubbermaid** 8.66
1. **Merck** 9.02

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6.5 7.0 7.5 8.0 8.5

Most Admired

* Name changed from NCNB.

HOW COMPANIES RANK IN 32 INDUSTRIES

Industry groups are based on U.S. Office of Management and Budget categories. Companies are assigned to a group according to the industry or service that contributed most to 1990 sales.

MINING, CRUDE-OIL PRODUCTION

Restructured Burlington returns a winner, booting Oryx, which piled on debt to buy back stock.

RANK	LAST YEAR	COMPANY	SCORE
1	—	Burlington Resources[1]	6.69
2	2	Freeport-McMoRan	6.63
3	1	Oryx Energy	6.40
4	3	Louisiana Land & Exploration	6.22
5	—	Hanson Industries[2]	6.11
6	7	Vulcan Materials	6.00
7	8	Newmont Mining	5.89
8	4	Nerco	5.86
9	6	Union Texas Petroleum	5.77
10	9	Asarco	5.64

PETROLEUM REFINING

Arco displaces Shell, which tumbled four places, as its refining and marketing operations flagged.

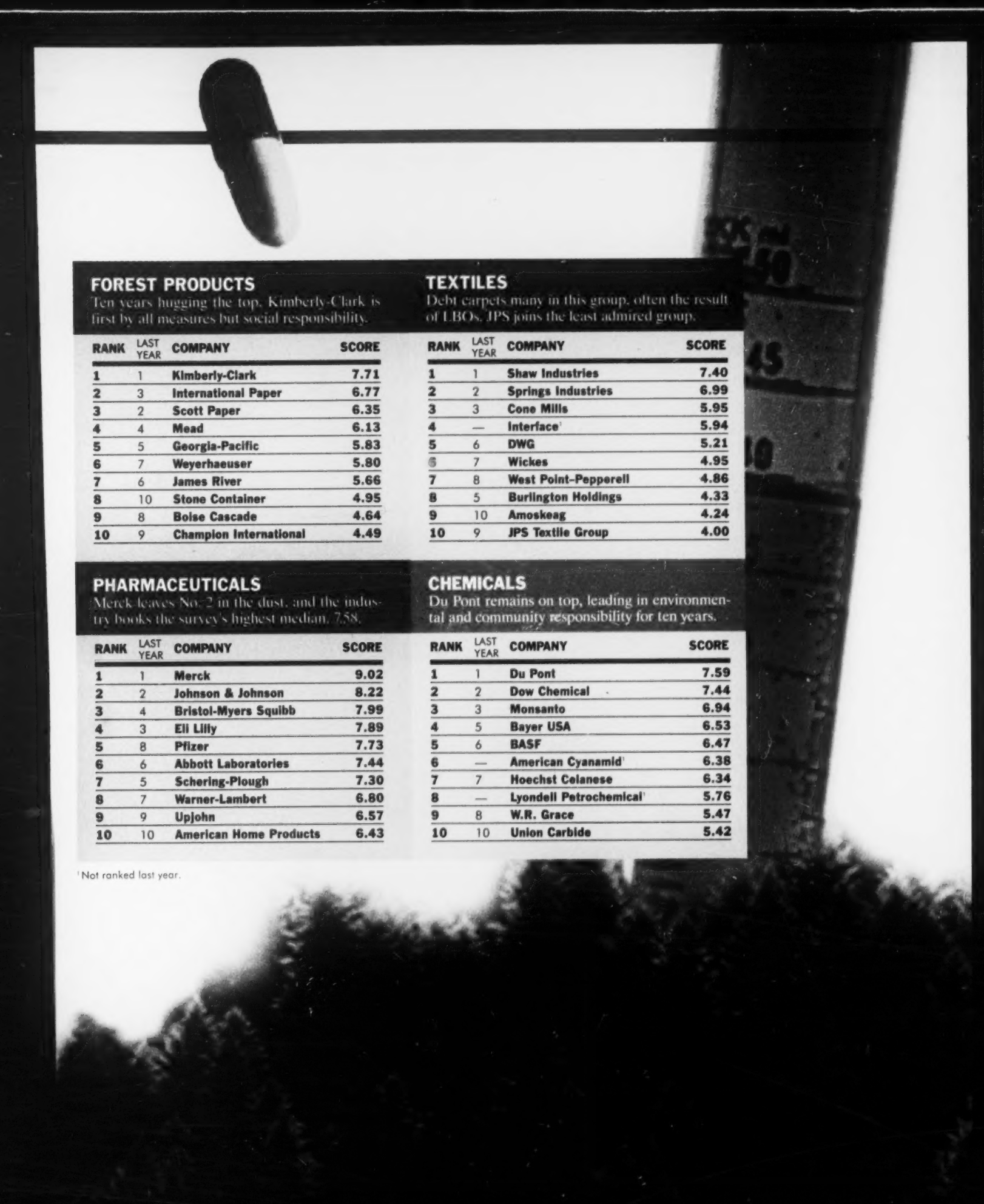
RANK	LAST YEAR	COMPANY	SCORE
1	3	Arco	7.37
2	2	Amoco	7.24
3	4	Mobil	6.97
4	6	Exxon	6.84
5	1	Shell Oil	6.83
6	5	Chevron	6.56
7	7	Texaco	6.36
8	8	Phillips Petroleum	6.08
9	—	Sun[1]	5.51
10	10	USX	5.50

UTILITIES

PacTel gets close to BellSouth, with high scores in innovativeness and ability to attract people.

RANK	LAST YEAR	COMPANY	SCORE
1	1	BellSouth	7.33
2	2	Pacific Telesis Group	7.29
3	2	Bell Atlantic	7.22
3	6	Pacific Gas & Electric	7.22
5	4	Ameritech	7.14
6	5	Southwestern Bell	6.98
7	7	GTE	6.83
8	8	US West	6.78
9	9	Southern	6.25
10	10	Nynex	5.79

[1]Not ranked last year. [2]No. 9 in chemicals last year.



FOREST PRODUCTS

Ten years hugging the top. Kimberly-Clark is first by all measures but social responsibility.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Kimberly-Clark	7.71
2	3	International Paper	6.77
3	2	Scott Paper	6.35
4	4	Mead	6.13
5	5	Georgia-Pacific	5.83
6	7	Weyerhaeuser	5.80
7	6	James River	5.66
8	10	Stone Container	4.95
9	8	Boise Cascade	4.64
10	9	Champion International	4.49

TEXTILES

Debt carpets many in this group, often the result of LBOs. JPS joins the least admired group.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Shaw Industries	7.40
2	2	Springs Industries	6.99
3	3	Cone Mills	5.95
4	—	Interface[1]	5.94
5	6	DWG	5.21
6	7	Wickes	4.95
7	8	West Point-Pepperell	4.86
8	5	Burlington Holdings	4.33
9	10	Amoskeag	4.24
10	9	JPS Textile Group	4.00

PHARMACEUTICALS

Merck leaves No. 2 in the dust, and the industry books the survey's highest median, 7.58.

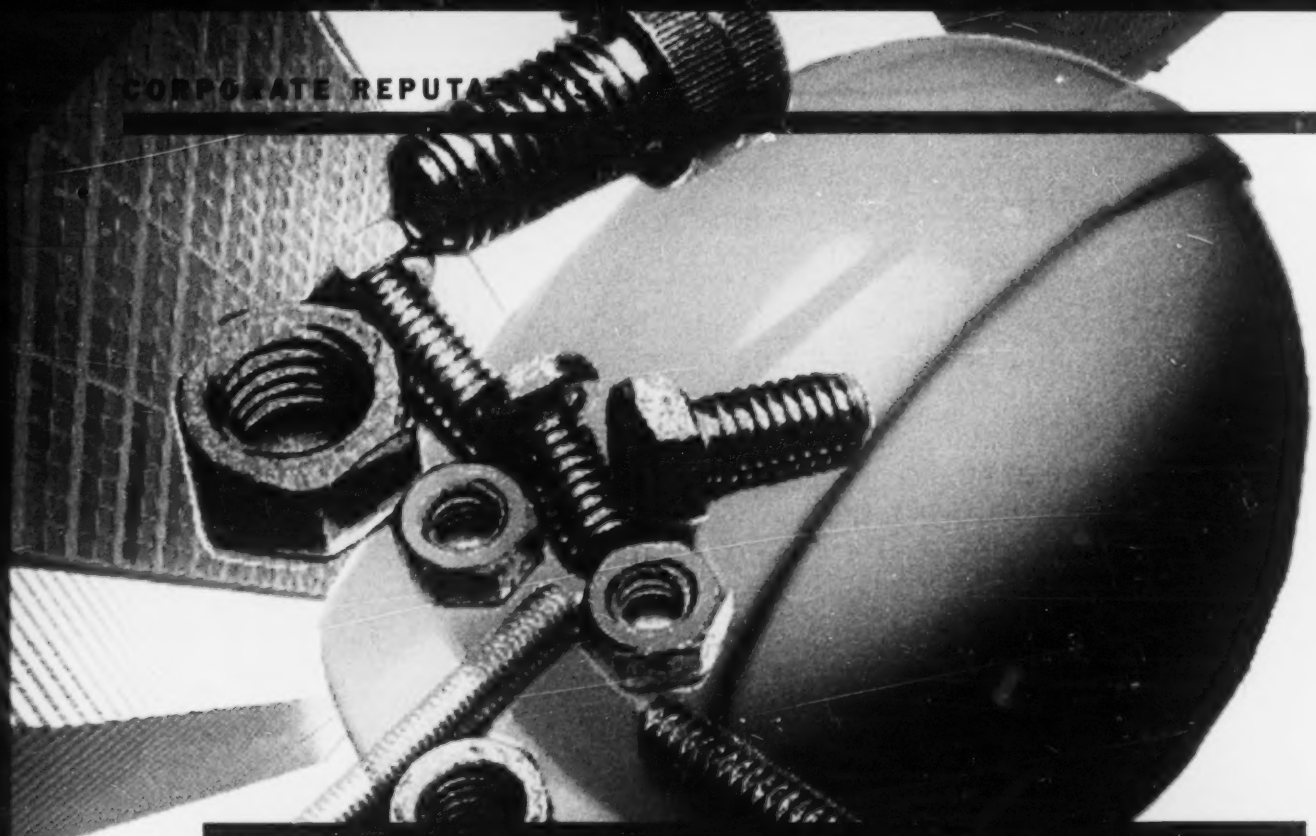
RANK	LAST YEAR	COMPANY	SCORE
1	1	Merck	9.02
2	2	Johnson & Johnson	8.22
3	4	Bristol-Myers Squibb	7.99
4	3	Eli Lilly	7.89
5	8	Pfizer	7.73
6	6	Abbott Laboratories	7.44
7	5	Schering-Plough	7.30
8	7	Warner-Lambert	6.80
9	9	Upjohn	6.57
10	10	American Home Products	6.43

CHEMICALS

Du Pont remains on top, leading in environmental and community responsibility for ten years.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Du Pont	7.59
2	2	Dow Chemical	7.44
3	3	Monsanto	6.94
4	5	Bayer USA	6.53
5	6	BASF	6.47
6	—	American Cyanamid[1]	6.38
7	7	Hoechst Celanese	6.34
8	—	Lyondell Petrochemical[1]	5.76
9	8	W.R. Grace	5.47
10	10	Union Carbide	5.42

[1] Not ranked last year.



METALS

Alcoa is the high scorer in financial soundness; Reynolds is numero uno in four measures.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Alcoa	6.87
2	2	Reynolds Metals	6.81
3	3	Phelps Dodge	6.39
4	4	Amax	5.88
5	—	Penn Central[1]	5.05
6	5	Inland Steel Industries	5.01
7	7	Bethlehem Steel	4.84
8	7	Maxxam	4.52
9	9	National Steel	4.28
10	10	LTV	3.70

METAL PRODUCTS

Gillette looked sharp in four measures and managed to displace Illinois Tool Works as No. 1.

RANK	LAST YEAR	COMPANY	SCORE
1	2	Gillette	7.12
2	1	Illinois Tool Works	6.99
3	3	Stanley Works	6.76
4	7	Crown Cork & Seal	6.36
5	4	Masco	6.21
6	—	Tyco Laboratories[1]	6.13
7	—	Peter Kiewit Sons'[1]	5.83
8	9	Harsco	5.56
9	10	McDermott International	5.43
10	—	Sequa[1]	5.25

BUILDING MATERIALS

Corning, maker of Steuben crystal and Pyrex, has been set in concrete as No. 1 since 1984.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Corning	7.72
2	—	PPG Industries[2]	7.12
3	—	Armstrong World Industries[3]	6.64
4	2	Owens-Corning Fiberglas	6.54
5	6	American Standard	6.05
6	3	Owens-Illinois	5.85
7	4	Lafarge	5.63
8	—	Southdown[1]	5.22
9	—	Holnam[1]	5.02
10	8	USG	4.74

RUBBER & PLASTIC PRODUCTS

While Rubbermaid bounces along with new products, declines in seven measures flatten Premark.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Rubbermaid	8.66
2	3	Cooper Tire & Rubber	7.16
3	2	A. Schulman	7.05
4	—	Bandag[1]	6.85
5	—	M.A. Hanna[1]	6.05
6	5	Standard Products	5.96
7	6	Raychem	5.93
8	4	Premark International	5.82
9	8	Goodyear Tire & Rubber	5.79
10	7	Carlisle	5.76

[1]Not ranked last year.
[2]No. 4 in chemicals last year.
[3]No. 4 in textiles last year.

TOBACCO

As the smoke cleared from its LBO, RJR had the largest entire gain in the survey, up 29%.

RANK	LAST YEAR	COMPANY	SCORE
1	1	UST	7.21
2	2	American Brands	6.63
3	—	RJR Nabisco Holdings[2]	6.58
4	3	Lorillard	6.40
5	4	Universal	6.28
6	5	Dibrell Brothers	6.25
7	6	Standard Commercial	5.73

BEVERAGES

Coke is the real thing this year, and Pepsi slips because earnings at Frito-Lay got crunched.

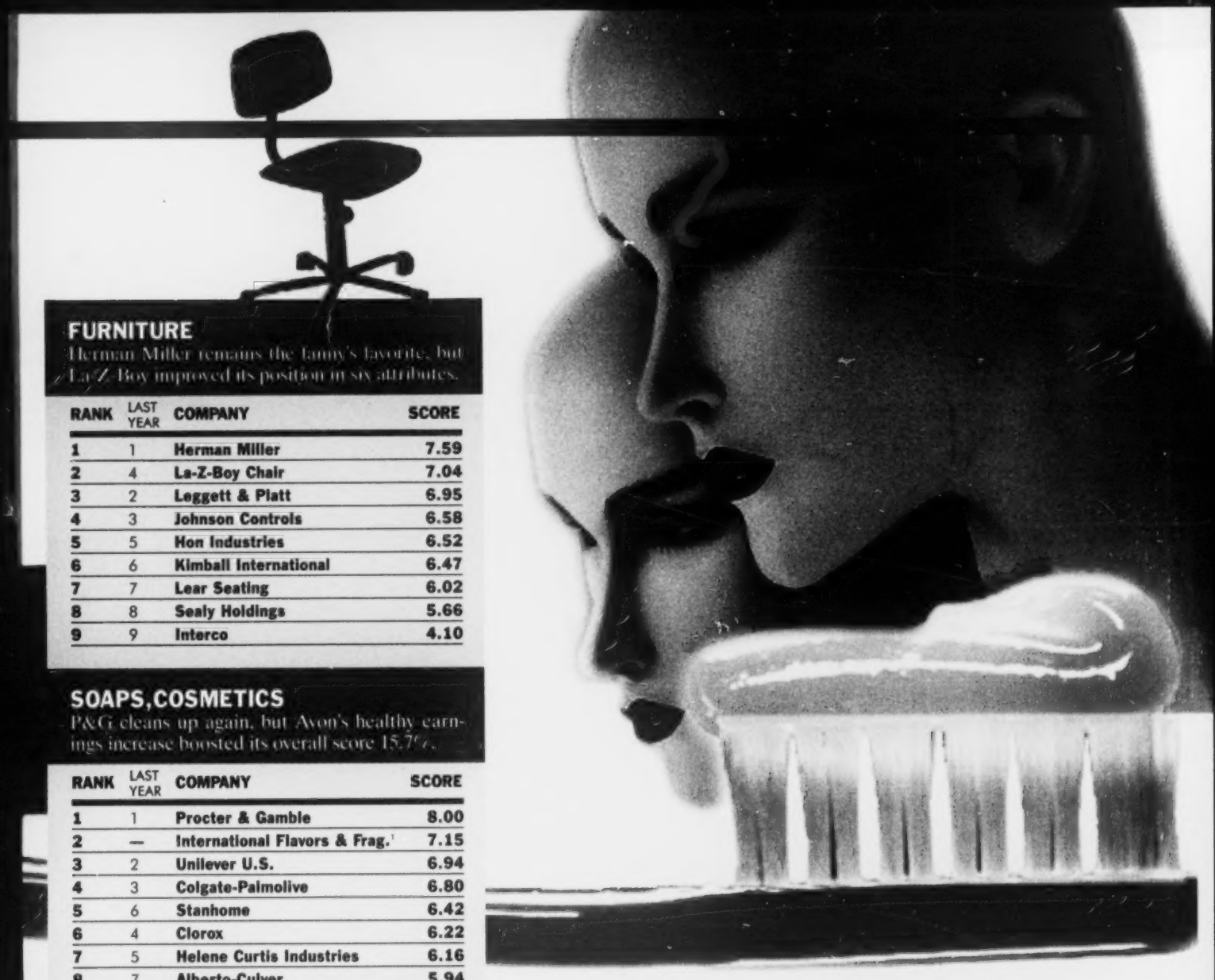
RANK	LAST YEAR	COMPANY	SCORE
1	2	Coca-Cola	8.13
2	1	PepsiCo	8.00
3	3	Anheuser-Busch	7.75
4	4	Adolph Coors	6.37
4	5	Brown-Forman	6.37
6	6	J.E. Seagram	6.17
7	7	Coca-Cola Enterprises	6.06

FOOD

General Mills takes the cake again. ConAgra and Philip Morris each climb two places this year.

RANK	LAST YEAR	COMPANY	SCORE
1	1	General Mills	7.55
2	4	ConAgra	7.28
3	5	Philip Morris	7.22
4	3	Sara Lee	7.19
5	2	H.J. Heinz	7.06
6	6	Archer Daniels Midland	6.76
7	—	Campbell Soup[1]	6.48
8	7	Ralston Purina	6.23
9	8	Borden	5.37
10	10	Occidental Petroleum	4.70

[1] Not ranked last year.
[2] No. 9 in food last year.



FURNITURE

Herman Miller remains the fanny's favorite, but La-Z-Boy improved its position in six attributes.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Herman Miller	7.59
2	4	La-Z-Boy Chair	7.04
3	2	Leggett & Platt	6.95
4	3	Johnson Controls	6.58
5	5	Hon Industries	6.52
6	6	Kimball International	6.47
7	7	Lear Seating	6.02
8	8	Sealy Holdings	5.66
9	9	Interco	4.10

SOAPS, COSMETICS

P&G cleans up again, but Avon's healthy earnings increase boosted its overall score 15.7%.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Procter & Gamble	8.00
2	—	International Flavors & Frag.[1]	7.15
3	2	Unilever U.S.	6.94
4	3	Colgate-Palmolive	6.80
5	6	Stanhome	6.42
6	4	Clorox	6.22
7	5	Helene Curtis Industries	6.16
8	7	Alberto-Culver	5.94
9	—	NCH[1]	5.83
10	10	Avon Products	5.69

RETAILING

The Marts, Wal- and K, do well. K is up in most measures from last year's dismal show.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Wal-Mart Stores	8.58
2	2	Dayton Hudson	6.82
3	4	May Department Stores	6.26
4	8	Safeway	5.92
5	5	Kroger	5.78
6	9	Kmart	5.77
7	3	J.C. Penney	5.68
8	7	American Stores	5.66
9	6	A&P	4.91
10	10	Sears Roebuck	4.24

APPAREL

Liz leads, but Levi turns heads with top scores in three measures and five years of record sales.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Liz Claiborne	8.43
2	2	Levi Strauss Associates	8.26
3	5	VF	6.93
4	7	Phillips-Van Heusen	5.92
5	4	Leslie Fay	5.84
6	9	Kellwood	5.77
7	8	Fruit of the Loom	5.73
8	—	Gitano Group[1]	5.37
9	6	Crystal Brands	5.34
10	10	Hartmarx	4.54

[1] Not ranked last year.

SAVINGS INSTITUTIONS

Golden West, Great Western, and H.F. Ahmanson are the only stars in this sorry bunch.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Golden West Financial	7.24
2	3	Great Western Financial	6.76
3	2	H.F. Ahmanson	6.68
4	—	FirstFed Michigan[1]	4.81
5	5	Glenfed	4.10
6	4	CalFed	3.95
7	—	Dime Savings Bank of New York[1]	3.73
8	6	HomeFed	3.03
9	8	CrossLand Savings	2.63

DIVERSIFIED SERVICE

AT&T goes the long distance, and Marriott falls five notches to No. 7 under a brickload of debt.

RANK	LAST YEAR	COMPANY	SCORE
1	1	AT&T	7.30
2	—	MCI Communications[1]	6.54
3	4	McKesson	6.49
4	5	Super Valu Stores	6.48
5	8	Fleming	6.47
6	7	Enron	6.33
7	2	Marriott	6.32
8	6	United Telecommunications	6.16
9	10	American Financial	5.79
10	—	Time Warner[2]	5.56

DIVERSIFIED FINANCIAL

Salomon thudded with the Treasury scandal, and record earnings powered Merrill's rise.

RANK	LAST YEAR	COMPANY	SCORE
1	2	Morgan Stanley Group	7.18
2	1	American International Group	7.05
3	4	Federal National Mortgage Assn.	6.40
4	3	American Express	6.28
5	9	Merrill Lynch	6.05
6	7	ITT	5.68
7	8	Cigna	5.37
8	5	Aetna Life & Casualty	5.32
9	10	Travelers Corp.	4.64
10	6	Salomon	4.51

[1]Not ranked last year.
[2]No. 9 in publishing, printing last year.
[3]Great American Bank, now under government supervision; would have been No. 10.
[4]Merger announced 8/12/91.
[5]Name changed from NCNB.
[6]Merger approved 12/31/91.

LIFE INSURANCE

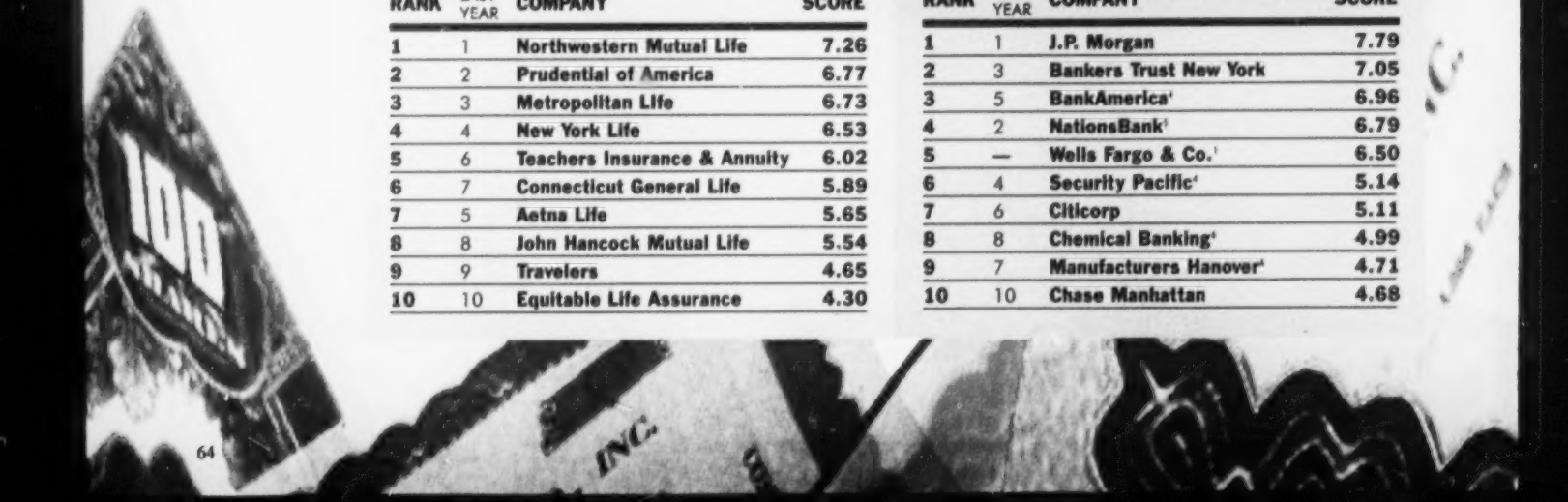
Northwestern Mutual, rated AAA by S&P and A+ by Best, quietly entrenches itself as No. 1.

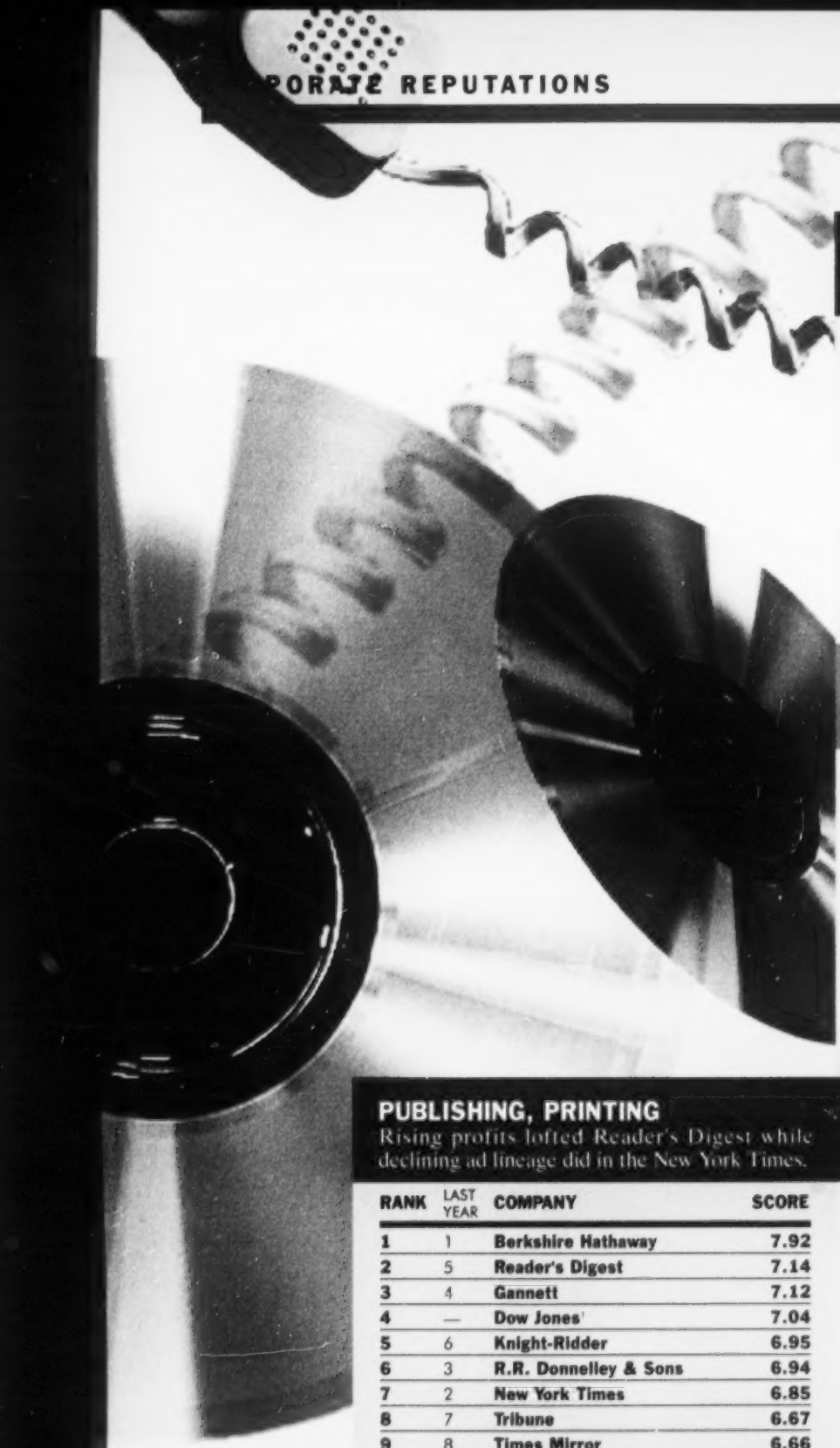
RANK	LAST YEAR	COMPANY	SCORE
1	1	Northwestern Mutual Life	7.26
2	2	Prudential of America	6.77
3	3	Metropolitan Life	6.73
4	4	New York Life	6.53
5	6	Teachers Insurance & Annuity	6.02
6	7	Connecticut General Life	5.89
7	5	Aetna Life	5.65
8	8	John Hancock Mutual Life	5.54
9	9	Travelers	4.65
10	10	Equitable Life Assurance	4.30

COMMERCIAL BANKING

J.P. Morgan is ever solid at top, but BankAmerica climbs as its bad loans get better.

RANK	LAST YEAR	COMPANY	SCORE
1	1	J.P. Morgan	7.79
2	3	Bankers Trust New York	7.05
3	5	BankAmerica[5]	6.96
4	2	NationsBank[4]	6.79
5	—	Wells Fargo & Co.[1]	6.50
6	4	Security Pacific[6]	5.14
7	6	Citicorp	5.11
8	8	Chemical Banking[6]	4.99
9	7	Manufacturers Hanover[6]	4.71
10	10	Chase Manhattan	4.68





ELECTRONICS

The juice is still on at GE, but a troubled loan portfolio short-circuited Westinghouse Electric.

RANK	LAST YEAR	COMPANY	SCORE
1	1	General Electric	7.67
2	2	Motorola	7.42
3	3	Emerson Electric	7.04
4	6	Raytheon	6.48
5	—	Cooper Industries[1]	6.33
6	7	Whirlpool	6.29
7	5	Texas Instruments	6.12
8	—	Rockwell International[2]	6.05
9	8	TRW	6.04
10	4	Westinghouse Electric	5.65

COMPUTERS & OFFICE EQUIPMENT

Big Blue should be mighty blue. Apple gets top marks for innovativeness and product quality.

RANK	LAST YEAR	COMPANY	SCORE
1	2	Hewlett-Packard	7.34
2	4	Apple Computer	6.96
3	—	Sun Microsystems[1]	6.86
4	3	Compaq Computer	6.53
5	1	IBM	6.50
6	6	NCR	6.03
7	5	Digital Equipment	6.00
8	7	Pitney Bowes	5.82
9	9	Unisys	3.32
10	10	Wang Laboratories	3.17

PUBLISHING, PRINTING

Rising profits lofted Reader's Digest while declining ad lineage did in the New York Times.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Berkshire Hathaway	7.92
2	5	Reader's Digest	7.14
3	4	Gannett	7.12
4	—	Dow Jones[1]	7.04
5	6	Knight-Ridder	6.95
6	3	R.R. Donnelley & Sons	6.94
7	2	New York Times	6.85
8	7	Tribune	6.67
9	8	Times Mirror	6.66
10	10	McGraw-Hill	5.95

SCIENTIFIC & PHOTO EQUIPMENT

Xerox regains second place, scoring well in four measures as its finance business bounces back.

RANK	LAST YEAR	COMPANY	SCORE
1	1	3M	8.12
2	6	Xerox	6.67
3	2	Bausch & Lomb	6.64
4	3	Becton Dickinson	6.46
5	5	Baxter International	6.40
6	4	Eastman Kodak	6.19
7	6	EG&G	6.18
8	—	Honeywell[3]	5.96
9	10	Tektronix	5.64
10	8	Polaroid	5.60

[1] Not ranked last year.
[2] No. 3 in aerospace last year.
[3] No. 9 in electronics last year.

AEROSPACE

A big government contract helps Lockheed take off with increases in all eight categories.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Boeing	7.98
2	2	Martin Marietta	6.93
3	8	Lockheed	6.37
4	4	United Technologies	6.13
5	5	General Dynamics	5.79
6	7	Textron	5.64
7	6	Allied-Signal	5.53
8	10	Northrop	5.03
9	—	Grumman[1]	4.85
10	9	McDonnell Douglas	4.56

TRANSPORTATION

United Parcel keeps delivering. UAL buys Pan Am's Latin American routes and improves.

RANK	LAST YEAR	COMPANY	SCORE
1	1	United Parcel Service	7.52
2	2	Delta Air Lines	7.27
3	2	Federal Express	6.96
4	4	AMR	6.95
5	5	Union Pacific	6.43
6	7	UAL	6.31
7	6	CSX	5.92
8	8	Northwest Airlines	4.83
9	9	USAir Group	4.47
10	10	Continental Airlines Holdings	2.87

MOTOR VEHICLES & PARTS

Ford declines in every measure but social responsibility. Chrysler bottoms out at No. 10.

RANK	LAST YEAR	COMPANY	SCORE
1	2	Eaton	6.62
2	3	Paccar	6.51
3	4	Dana	6.45
4	1	Ford Motor	6.34
5	5	General Motors	5.93
6	6	Fleetwood Enterprises	5.82
7	—	Arvin Industries[1]	5.69
8	—	Echlin[1]	5.58
9	8	Navistar International	4.83
10	9	Chrysler	4.27

TRANSPORTATION EQUIPMENT

Not many changes here. Harley hogs first place and vroom-vrooms from 41st to 25th overall.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Harley-Davidson	7.50
2	2	Trinity Industries	6.33
3	3	Brunswick	6.21
3	3	Outboard Marine	6.21
5	5	Avondale Industries	4.56

F

[1]Not ranked last year.

INDUSTRIAL & FARM EQUIPMENT

Deere's lead widens. Caterpillar is tops in product quality; Black & Decker in innovativeness.

RANK	LAST YEAR	COMPANY	SCORE
1	1	Deere	7.07
2	2	Caterpillar	6.59
3	3	Black & Decker	6.44
4	4	Ingersoll-Rand	6.43
5	5	Parker Hannifin	6.35
6	7	Baker Hughes	6.25
7	8	Dresser Industries	5.97
8	9	Cummins Engine	5.73
9	10	Tenneco	5.15
10	—	Great American Management[1]	5.01

JAPAN

WHAT NOW FOR THE U.S. AND JAPAN

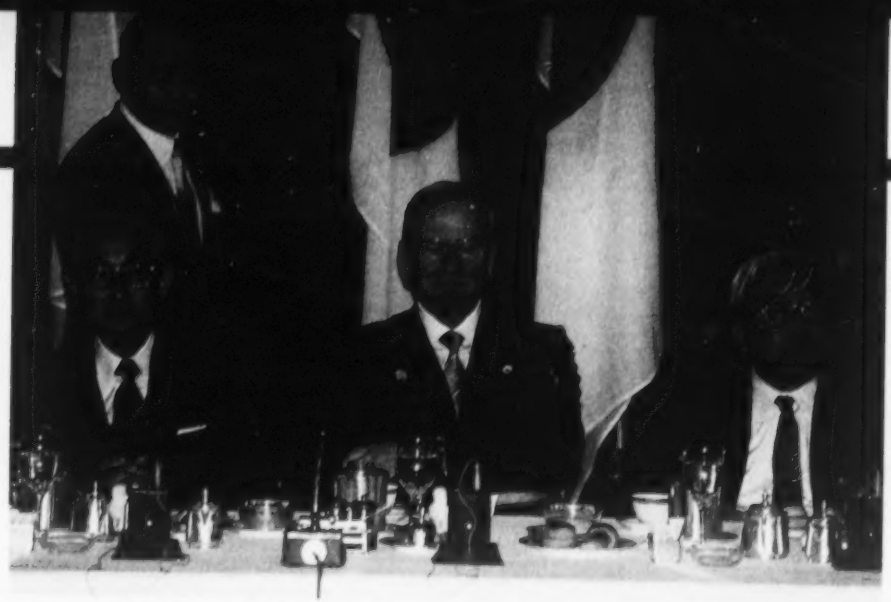
George Bush and his pack of CEOs pressed managed trade on the Japanese, but much more is needed to create jobs and boost exports. Next step: avoiding a trade war. ■ *by Allan T. Demaree*

Did Bush become a car salesman in Japan? "Damn right," says Mosbacher. "Call him guilty!"

AS THE BLUE and white Air Force 747 descended through gray skies into Osaka, the image of Japanese trade official Noboru Hatakeyama flashed on an overhead TV screen. One of the score of chief executives President Bush brought with him to Japan looked up, pointed, and shouted: "The enemy!" There were laughs all around. As the later negotiations in Tokyo got testy, the description seemed apt enough, though neither side scored a decisive victory. Said Textron CEO Beverly "Bev" Dolan in his Georgia drawl: "It's like the old Chinese saying—a lot of thunder but not much rain."

Maybe he should have said, not yet. The trip left thunderheads glowering over the world economy—and leaders in the U.S., Europe, and Japan wondering where to go from here. As Japan's major trading partners look to the East, they see a mercantilist samurai whose successive swings of the sword hack, hack, hack away at jobs, jobs, jobs and the wealth of other nations. The Japanese are out of step with world standards of behavior, they say, by not opening their markets unto others as others have opened markets unto them. If they keep resisting, the world will no longer turn the other cheek. But in the threat of retaliation lies an ever-tightening cycle of protectionism, the self-strangling trade war that has been raised as a distant specter and now seems much closer.

Bush also put his own prestige on the line by finally accepting the role of CEO of America Inc., which many U.S. executives have been urging on him for a long time. Says James D. Robinson III, CEO of American Express: "This is the first time the U.S. has come out united—the Commerce Department, the Treasury, the President, the



The man who does sell cars for a living, Lee Iacocca (center), was close to a boil all the time in Tokyo.

business community—to declare that trade is a national priority on a par with our security interests. For better or worse, we have crossed that line in the sand."

The effort may well prove to be for the better, but it was strange to see the leaders of the world's economic superpowers—responsible among them for 40% of global GNP—haggling over auto parts. Has George Bush become a car salesman? Robert Mosbacher, the former Commerce Secretary who will direct Bush's reelection campaign, bristles at the charge. Says Mosbacher, who did much to persuade his boss to dirty his nails in the crass cause of commerce: "Well, if he's a car salesman, he's in pretty damn good company. Margaret Thatcher was a car salesman, President Roh [of South Korea] is a car salesman, Mitterand is a car salesman, Kohl is a car salesman. Sure, he's interested in his country's economy, and a big part of that is autos, just as a big part of it is homes, and a big part of it is all the other things, like electronics. If you call that being a car salesman, a home salesman, an electronics salesman, damn right! Call him guilty!"

UNFORTUNATELY, call him confused as well. The President set out on a quest for jobs. The trouble is, the link between more trade and more jobs in the increasingly interrelated global marketplace is hardly simple or direct. Much of American industry, whether or not it gets new markets in Japan, needs to keep shedding jobs to increase competitiveness. As Europe's bloated and inefficient state-owned companies demonstrate, any business that puts jobs ultimately ahead of profits will soon be in trouble. To prosper, global corporations invest wherever opportunity is greatest, whether in the U.S., Mexico, South Korea, or Japan. Honda, for example, employs 43,000 Japanese and 41,600 foreigners, including 15,000 Americans.

So where does the world go from here? There should be no doubt: Avoid protectionism. Avoid trying cures like managed trade that are as bad as, and in some ways worse than, the disease. March toward ever more open markets. In the U.S., government and industry should concentrate on making America more competitive.

Seldom has the outlook for achieving unfettered markets looked more grim. Congressman Richard Gephardt (D-Missouri) and Senator Donald Riegle (D-Michigan), among others, are preparing legislation that would force Japan to cut its trade surplus with the U.S. ($41 billion in 1990) by a fifth each year for five years, or face harsh reductions in the number of cars it can sell in the U.S. (even if those cars are made in California, Kentucky, or Tennessee). It's hard to say whether such a bill could pass, but some Senate Democrats think the chances for tough new trade legislation are better now than before Bush took his trip.

Europe, which watched warily as Japan took 30% of the U.S. car market, has said no thanks to a repeat performance on its own turf. The EC has negotiated a deal to limit Japanese car sales to no more than 16% of the market through 1999 (vs. 11.5% now).

As the international competitors confronted each other in Tokyo, anger born of frustration met arrogance bred of success. Many Japanese seem not to agree with Brent Scowcroft, Bush's National Security Adviser, who argues that because Japan's exports are so large (10.7% of GNP), "a collapse of an open world trading system would perhaps hurt Japan more seriously than any other major industrial nation." Even those Japanese who do take Scowcroft's point have not figured out how to respond. Why? Because in their view, Japan's export surplus is not the result of a closed home market or of the notorious old boys' *keiretsu* network but the logical consequence of the fact that they produced goods of highest quality, designed for consumer tastes, accompanied by the best service, and sold at the most competitive price. To tell them that Japan must buy more American cars and parts is to tell them that they must be penalized for winning.

During Bush's visit, groups of American and Japanese executives from various industries gathered in closed meetings in the spacious Hotel Okura across from the American embassy. The auto session, in which Detroit's Big Three faced off against Japan's Big Five (Toyota, Nissan, Honda, Mazda, and Mitsubishi) for the first time ever, was scheduled for 75 minutes but lasted more than two hours (see box). Nissan President Yutaka Kume said the discussion was "quite tense." Robert Stempel, chairman of General Motors, described it as "hot, heavy, and hard."

How many points of market share is a Shinto blessing worth?

To the Americans, both in that meeting and others, the Japanese strategy seemed to be mostly stonewall and then, in an oft-repeated phrase, "throw us an occasional bone." In one session, a Japanese business-

REPORTER ASSOCIATES *Emily Thornton, Thomas J. Martin, and Cindy Kano*

HOW SOME COMPANIES DO IN JAPAN

COMPANY	MARKET SHARE JAPAN	U.S.	EUROPE
SCHICK RAZORS (Warner-Lambert)	69.5%	30.3%	N.A.
COCA-COLA	33.0%	41.0%	42.0%
MONROE SHOCK ABSORBERS (Tenneco Automotive)	1.0%	59.0%	28.0%
GENERAL MOTORS	0.3%	35.1%	11.6%
FORD MOTOR	0.1%	23.9%	11.1%
WORTH SPORTING GOODS (Baseball equipment)	0.0%	25.0%	5.0%

FORTUNE TABLE

man said that U.S. companies couldn't succeed in selling high-pressure gas products like propane because they didn't comply with local standards. Dexter Baker, chairman of both the National Association of Manufacturers and Air Products & Chemicals, one of the world's largest industrial gas producers, knew that was baloney—the Japanese did not follow international standards—and told him so. Says he: "That guy was trying to treat me like a backwoods Indian." Recalls Textron's Bev Dolan: "Why, I thought Dexter was like to come right up out of his seat."

Are Japanese markets really shut to foreigners? The short answer is yes, some are, a few by law (rice), others in ways more subtle and harder to pin down (flat glass, paper). Unfortunately for the American effort to make this point, the industry most visible in the trade talks had the weakest case. Yes, American autos have encountered genuine barriers (a few of which were negotiated away in Tokyo). Nobuhiko Kawamoto, the forthright head of Honda, readily admits that Japanese dealers have been slow to open up to foreign cars. But look how the Big Three performed against the Germans in the face of equal obstacles. Detroit's sales in Japan dropped from 16,282 cars in 1975 to 15,975 in 1990; Germany's climbed sixfold from 22,108 to 137,442. You can make the argument that U.S. automakers blew the game decades ago. They paid uncompetitively high wages, slipping the bill to consumers, and got sloppy in manufacturing. Unchallenged by foreign rivals at home, they were uninterested in what seemed the piddling Japanese market. Now they are getting their comeuppance.

SOME OF THE other CEOs Bush brought along thought the President weakened his case by including the automen. Says Maurice "Hank" Greenberg of American International Group, the big insurer: "A lot of their problems are at home, not here." But Mosbacher replies, "If you hadn't taken them, you'd hear, 'How could you leave out the biggest part of the problem, you dummy?' So, even though we don't always agree with what the auto guys are saying, I think they should be part of this effort. And I'll stick by that."

One of the things the carmakers were talking about was the Poling Plan, named for Harold "Red" Poling, the fiery Ford chairman who conceived it and persuaded GM's Bob Stempel and Lee Iacocca of Chrysler to support it. The plan is similar to Gephardt's proposed legislation in that it requires the Japanese to reduce their trade surplus without regard to its cause. Iacocca makes no bones about why he likes the idea: "Only 15% of the problem is access to their market," he says. "The other 85% is their exports. They have the capacity to build 14 million cars a year in a market for seven million. The Europeans won't let them in. What are they going to do? Send them to the U.S., that's what!"

The Administration split with the automakers on the Poling Plan, which it views as managed trade. But behind the scenes, at least one American negotiator was happy to see unanimity among the Big Three. In the past GM had stuck with a classic free-trade

Crossing a line in the sand: As the CEO of America Inc., the President (at podium, far right) lends a hand at the opening of a Toys "R" Us store in Kashihara.

DAVID HUSTON

FORTUNE

stance. Until the U.S. carmakers could unite, the Japanese would judge them incapable of mustering powerful support in Congress and would not feel pressure.

With the auto wars capturing headlines, better arguments for Japanese reform get overlooked. A whole parade of CEOs, including some who have done remarkably well in Japan, testify that the market is unfairly jiggered against foreigners. American Express cards are honored all over Tokyo, but Jim Robinson hasn't been able to get permission from the Ministry of Finance to dispense cash through most automatic teller machines. AIG, which has sold insurance in Japan since 1946, makes a ton of money there. Yet while it is the largest insurer of industrial risks in the U.S., its share of this segment of the Japanese market is virtually zero because local companies automatically buy from captive insurers in their own industrial groups.

TRW sells auto parts all over the world. Sales to the Japanese have risen from $50 million to $500 million annually in the past four years, about 30% inside Japan, the rest to Japanese companies elsewhere. But Chairman Joseph T. Gorman isn't satisfied. "We are the dominant supplier of our product lines in the U.S. and Europe," he says. "If we had been allowed, we could have been the same in Japan." Government regulations and tightknit *keiretsu* supply arrangements kept TRW out of the market for years. So it licensed technology to Japanese companies and participated in joint ventures. Says Gorman: "If the industry hadn't grown up this way, its basic nature would have been different and we would have had the same penetration as in Europe." Example: TRW is the main supplier of power steering gears in Europe, with 100% of both Fiat's and Volkswagen's business. Its share in Japan is single digit.

NOR DO YOU have to take only the Americans' word for it. Listen to Kim Woo-Choong, head of Daewoo, South Korea's second largest industrial group, which ships steel, consumer electronics, and textiles to both Japan and the U.S. Says Kim: "Every country has trouble selling to Japan. It is much harder selling to the Japanese than to the Americans." He cites the cohesiveness of Japanese society and the national spirit and group loyalty it engenders. Kim says that if Daewoo beats Japanese steel plate on both price and quality, competitors in Japan will pressure his customers to stop buying—and they will. The Japanese, Kim says, are "born not to import."

Noboru Hatakeyama, the "enemy" from the Air Force 747 TV screen, has heard such charges before. As MITI's vice minister for international trade, he has also investigated them. "I asked the Japanese steel companies, and they denied it," he says with a what-more-can-I-do air. "If I can catch such an example"—his hand flicks out as if to grasp an invisible fly—"I would like to solve the problem." Has he ever found discrimination against outsiders? "Once upon a time," he says, "in the case of auto dealerships, perhaps ten years ago." Not recently.

The market for *kemari* balls would be hard for the U.S. to crack, but Bush tried the game anyway.

The arrival of Bush and his entourage jolted the Japanese. Young people could hardly believe that the President of the U.S. had traveled to Japan, in their view, to beg. The old shook their heads sadly as if to say, "What a pity, a great nation has come to such a pass." Says Kawamoto of Honda: "This is the first time since World War II that I have seen a reaction like this."

Still, many older Japanese continue to feel they owe America something for all the postwar years of support and friendship. Leaders in business and government also believe it is in their interest to get George Bush reelected because the Democrats seem more insular and protectionist. How hard did MITI push Japanese automakers to make concessions? "That's a question I like to avoid," says Hatakeyama. He pauses, smiles. "Of course, actually we asked. But that was just the start. MITI's suggestion. The outcome was their decision."

The automakers promised to increase their purchases of U.S. parts from $9 billion annually to $19 billion in four years and import an estimated 20,000 more cars a year, about two days' production at GM. Small beer, and even that is not guaranteed on tap. But is this managed trade? Are sumo wrestlers chubby? The words "managed trade" nestle next to "industrial policy" in the Bush Administration's lexicon of forbidden phrases but not forbidden actions. As U.S. and Japanese negotiators grappled into the night, their movements would have defied a Kabuki choreographer. They "agreed" to nothing; to do so would have violated international trading rules laid down by GATT.

Borrowing a term from another area of public policy, an American official privately justified the deal as an effort by Japan to "undo past wrongs through affirmative action." Others talked of "specific goals" (Bush), "yardsticks for compliance" (Scowcroft), and achieving "tangible and monitored" results (Mosbacher). They made clear that this was just a "first step" and that the next one would come when Prime Minister Kiichi Miyazawa visits Washington in the spring.

What if the Americans keep coming back again and again, like Robert De Niro in the movie *Cape Fear*? Would Japan be trapped in a policy of appeasement? Some Japanese think not. Says Shoichiro Toyoda, president of Toyota Motor: "If there is something you

cannot do, you must have enough courage to say no." Hatakeyama compares the process to taking a pain killer: You take too much, and it will hurt you. "I find it quite ironic," he adds, "that the U.S. asks us for something deviating from the free trade principle that it believed in for 40 years after World War II just when the West succeeded in changing a command economy, the Soviet Union, into a market economy."

Managers who operate in the real economy will undoubtedly do what they have always done when politicians tinker with the market: demonstrate once again the law of unintended consequences. Kenichi Ohmae, prolific author and chairman of the McKinsey consulting firm in Tokyo, describes how the deal negotiated in 1986 to give U.S. companies 20% of the Japanese market for semiconductors has worked out.

The original idea was to restore chipmaking in the U.S. But because the major American producers, Texas Instruments and Motorola, shifted the bulk of their memory chip production to Asia, Ohmae says, the chips they make in Japan are now counted under the quota. "Does that help trade?" he

AUTOMAKERS TALKING PAST EACH OTHER

During Bush's trip to Japan, the heads of America's Big Three automakers met for more than two hours with their Japanese counterparts, the CEOs of Japan's Big Five. Did either side win converts? Judge for yourself. Here's what they said when the head-knocking was over:

Chrysler CEO Lee Iacocca:

They say all the problems are our fault. That's like blaming our Army and Navy for Pearl Harbor because we weren't ready. No, we don't have to show any more patience toward Japan. None.

GM CEO Robert Stempel:

[In America] we gave our distribution network to Japan. Our best dealers sell Toyotas and Hondas. We'd like the same reciprocity. We are not asking that they give us anything.

Ford Motor CEO Harold Poling:

They have had an essentially closed market for 40 years. It's time for it to open. When all of the auto manufacturers in the world can get less than 3% of a seven-million-vehicle market, something is wrong.

DIRCK HALSTEAD

The Big Three (above, from left): Robert Stempel of General Motors, Harold Poling of Ford Motor, Lee Iacocca of Chrysler. Japan's Big Five (below, from left): Toyoo Tate of Mitsubishi, Yutaka Kume of Nissan, Shoichiro Toyoda of Toyota, Nobuhiko Kawamoto of Honda, and Norimasa Furuta of Mazda.

Nissan CEO Yutaka Kume:

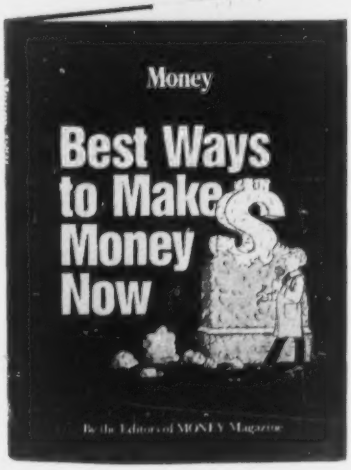
We want the American side to study the cause of the trade imbalance. I want Americans to stop saying there is an imbalance because Japan is unfair. The Japanese market is not closed or unfair. The U.S. must make more efforts. In order to keep good relations in the future, we have to buy American auto parts. Even if the cost is a bit high, we may accommodate U.S. suppliers. But not if the parts are of low quality. That is the best we can do under the present circumstances.

Honda CEO Nobuhiko Kawamoto:

The Americans say that their automobiles are as competitive as other makes. This message has not been properly transmitted to the Japanese customers.

DIRCK HALSTEAD

R-R-Recession? Now what?



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Will the Japanese go soft? These young Tokyo skateboarders, at least, just seem to want to have fun.

asks. "No. Does it create more jobs in the U.S.? No. Has there been any revival of American industry as a result? No. What *is* the agreement doing? It is allowing trade negotiators to say, 'See, it's working.' "

Ohmae goes on: "American companies are making money hand over fist because they have guaranteed sales. MITI strongly suggests that individual chip users increase purchases and monitors their performance quarterly. If the companies don't comply, they fear they will be retaliated against when they need something from MITI. So they buy chips and throw them away."

How will the Japanese reach their targets for the purchase of American auto parts? Easy, says Ohmae, "we will buy tires. Bridgestone owns Firestone. Sumitomo Rubber owns Dunlop. Yokohama Rubber owns Mohawk. Thank you very much. So we will simply import tires from the U.S. and mount them on the cars to be exported back to the U.S. Secondly, we will import from 120 Japanese component plants in the U.S."

Still not enough? "We will import completed automobiles. This will be a disappointment to the Big Three. We have 12 auto plants in the U.S. We will import from them. Don't worry. We will buy these American cars, because MITI is determined. MITI is now allocating purchase of these cars among Japanese companies. They are saying, 'Look, you guys export X billion dollars of goods to the U.S., why don't you buy five American cars?' Then they go to another company: 'You are exporting too much to the U.S. Shame. Why don't you buy ten cars?' They are already out knocking on doors."

ONE OF THE BEST things to come out of the Tokyo talks was an agreement for the two governments to cooperate in promoting economic expansion. An increase in U.S. growth of a single percentage point would create nearly a million jobs, swamping anything that could possibly flow from Bush & Co.'s market meddling. Sure, Japan has protected some of its market, but the U.S. trade deficit also owes its existence to other factors: Japan is a nation of producers, the U.S. a nation of consumers; Japan is a nation of savers, the U.S. a nation of spenders. If Americans want to be more competitive in trade, they must cut excessive government spending and promote investment both in human and physical capital. Says Kazuo Nukazawa, managing director of Keidanren, Japan's most influential business organization: "You should go back to Benjamin Franklin; spend less and save more. My father gave me a Benjamin Franklin book as a child. We adopted total quality management. These things came from America. We learned from you. You have to be more American."

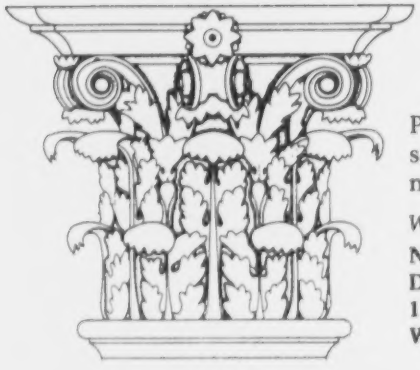
Another possibility is that the Japanese will get soft. Besides pressures for change from the U.S. and Europe, they are feeling strains within their own society. Single-minded pursuit of growth and market

share has come at the expense of employees' time off (Japanese put in 2,100 hours a year, vs. 1,800 in the U.S.). Widows of workers who suffered *karoshi*, or death from overwork, are calling the Karoshi Hot Line and suing employers. The labor pool is tight; Japan is importing workers, at the risk of social unrest, and exporting factories. Investment lags in sewers, housing, roads, parks, and all manner of amenities public and private. The nation cries out for *yutori*, the comfortable life.

ALL THIS has set off debate about the Japanese ethos and the corporation's role in it. Akio Morita, chairman of Sony, writes in the February issue of *Bungei Shunju*, a respected monthly, that he can understand why Western businessmen think the Japanese are "trying to strangle them." The Japanese system has been relentlessly geared to producing ever better products at "unbelievably low" prices. In the process, other values have been slighted, including contributions to shareholders and the community.

Dividend payouts come to just 30% of profits in Japan, vs. 54% in the U.S. and 66% in Britain. Contributions to charity as a percent of profits are less than one-quarter the U.S. rate. These issues, along with the compensation and treatment of workers and care for the environment, Morita writes, ought to be reexamined even if changes lead to more relaxed competition, higher prices for exported products, and less of a fixation on market share. Japan, he went on, should concentrate on becoming a "lifestyle superpower."

To some Japanese, Morita's words seemed shocking, since the Sony chairman has been the hardest of hard drivers, both in and out of Japan. U.S. Ambassador Michael Armacost points out "a practical question" that Morita himself acknowledges: How can hotly competitive Japanese corporations "embrace these ideas simultaneously rather than some doing it at their own competitive disadvantage?" But change is already afoot, notes Nukazawa, the Ben Franklin fan. Young people aren't saving what their parents did. Many companies are going to five-day workweeks, as are some schools. The so-called *shinjinrui*—literally, the new human species—age 20 to 30, seem to be losing some of that old-fashioned work ethic. "The way of all flesh," says Nukazawa. But the decline and fall of Japan, he says with a twinkle in his eye, lags well behind that of the U.S.



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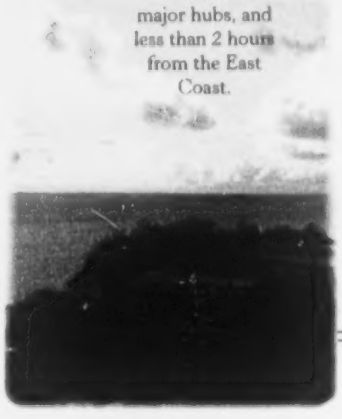

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THE BABY BOOMLET IS FOR REAL

The trend started with women beating the biological clock, but it won't stop with them. More young women are dropping out of full-time work to start families. ■ *by Joseph Spiers*

NOTICED many pregnant women in your office the past few years? Lots of strollers in the local park? It's what number crunchers call anecdotal evidence—you see something that looks like a trend, yet can't "prove" it. Indeed, conventional wisdom, based on Census Bureau forecasts, holds that birthrates will decline.

Now the numbers are starting to document what the eye can see. Babies are back, the rise in the percentage of women entering the labor force has stopped growing, and younger women seem more interested in starting families earlier than their older sisters. The signs all point to a bona fide baby boomlet. Yes, the 1990s really are going to be different.

If the demographers descrying the baby trend are right—and they put up powerful arguments—ten million more small Americans than foreseen by the Census Bureau will be around by the year 2000. That's bad news for those who sell sports cars, run fancy resorts, or operate haute cuisine restaurants: Tomorrow's homebound consumers will have fewer discretionary dollars available for pricey pleasures. For makers of kids' clothes, toys, and the like, there will be opportunities aplenty.

Census Bureau population projections are enormously influential among business and government planners. In its most recent estimate, published in 1989, the bureau predicted 3.7 million births in 1990. Actual result: 4.2 million (see chart), the most since the late baby-boom year of 1961, when 4.3 million children entered the world. And 1989 was pretty boomish too, with four million new citizens.

How could the agency have underestimated so badly when it knew how many American women were in their childbearing years? It looks at something called the total fertility rate—the number of babies a woman would have in her lifetime, given the current year's fertility patterns across age groups. Through most of the 1980s the rate was 1.8, which the bureau used in its projections. On its side: the continuing expansion of women's job opportunities, incomes, aspirations, and independence. What modern woman would want to be tied down by bottles and diapers when she could be doing leveraged buyouts?

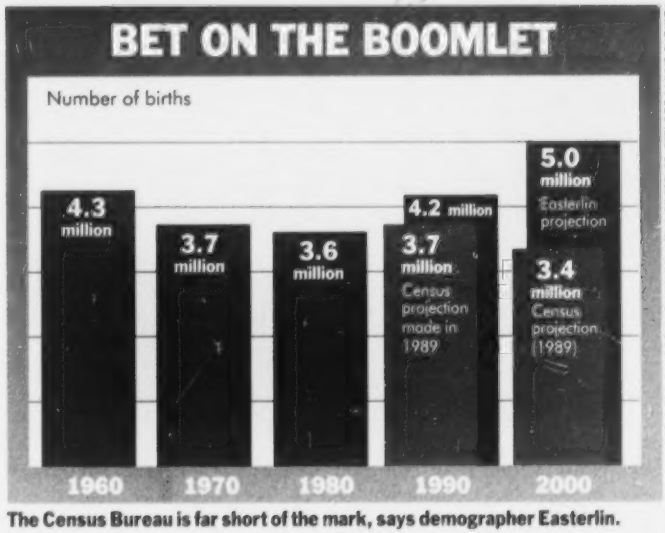
Quite a few, it turned out. In 1990 the fertility rate reached 2.1, and that seemingly small change resulted in the half million extra births. Especially notable: a sharp rise in the birthrate among college-educated managers and professionals over 30, according to biennial census surveys. These are the women who delayed childbearing to pursue careers and are now bent on catching up. Though much attention has been paid to the soaring number of out-of-wedlock births, the more important news for business is in the number of births to married women, which began to rise in 1988 after sinking for two decades. Married couples have both the

Astutely planning on a coming surge of young customers, Texas Instruments has expanded its line of electronic toys.

JOHN MAIER

will and the wallet to treat their babies to the best.

The question now for demographers and marketers: Will the baby buggy soon come to a screeching halt when women who delayed childbearing finish beating the biological clock? After all, the typical baby-boomer today is thirty-something. You might well expect that the educated, ambitious American woman will quickly revert to her ways of the 1970s and early 1980s, and either postpone children or have a baby and go back to work. It's still a staple of establishment thinking that young women will choose to have few children.



The Census Bureau is far short of the mark, says demographer Easterlin.

Not so, asserts Richard Easterlin, demographer at the University of Southern California. Easterlin expects that the fertility rate will rise markedly this decade to as high as 2.7 children per woman—a level the U.S. hasn't seen for a quarter-century. Births fell in 1991, but only because of the recession, he says. Even so, they tallied around four million, vs. the census projection of 3.7 million.

Easterlin has made a career of challenging conventional wisdom. During the 1970s he was forecasting an upsurge in the 1990s. He made that call during the heyday of the Limits to Growth and Zero Population Growth movements, when it was widely agreed that the fertility rate would head down as it had for 100 years, interrupted only by the anomalous baby boom.

What caught Easterlin's eye was not the long-term downward trend but the tremendous swing in birthrates during past decades. Something fundamental had to be at work, he figured—a factor that would influence future cycles. The something turned out to be a couple's income, mostly the husband's, relative to the couple's material aspirations. Those aspirations, in turn, are largely determined by their parents' incomes.

The higher a couple's income relative to their aspirations, Easterlin found, the higher the fertility rate. And income is heavily influenced by the size of the couple's generation: If there are lots of people, they crowd into the labor force, pushing wages down compared with those of their parents' generation. That's what happened to the baby-boomers, and it is why their fertility rate fell below replacement rates in the 1970s and much of the 1980s.

Hold on. Didn't the boomers have it good, weren't they big spenders, didn't they unleash yuppies on society? Sure enough. Their parents' prosperity gave them big aspirations for consuming. But since there were so many of them, they had to pay for their pleasures by putting off marriage and children. Boomer women thronged to the career ladder and climbed with tenacity.

The baby-busters, those born roughly between the mid-Sixties and the early Eighties, are more likely to enjoy good wages because of their smaller numbers. Despite modest economic growth and continuing corporate restructuring, incomes will continue to rise unless the economy of the coming decade turns out far grimmer than seems likely. The gains should be strong enough to push the total fertility rate well above where it is now—especially since several years of weak growth and recession have diminished so many aspirations.

"Most women will work fewer hours, travel less, and take less work home."

Other researchers support Easterlin's thesis. Diane Macunovich, a professor at Williams College, has calculated that wages of young workers relative to their parents' wages five years earlier—when the youngsters were forming expectations—began to rise in 1985. That foreshadowed higher fertility in the late 1980s, with the rate for 20- to 24-year-olds rising to 115.4 births per thousand in 1989 (the latest data available) from 107.3 in 1984. Comparing the number of younger vs. older workers, Macunovich projects continued increases in relative wages for those in their late teens and early 20s through the year 2000, implying higher fertility rates.

Now look at what's been happening to the birthrate among women ages 25 to 29, who were born as the baby boom wound down: Births hit 116.6 per thousand in 1989, compared with 108.3 in 1984. Why? These women are in a less crowded marketplace than their older sisters. And many who've been hearing about how draining it is to have a newborn at 35 or 40 seem to be advancing their plans.

THEN there's the development that probably seems incredible to anyone who's come of age since the mid-1960s. The rise in the percentage of women entering the labor force has stopped. Year in and year out, through recession and expansion, the female labor force participation rate grew from 37.7% in 1960 to over 57% in 1989. But there it has stuck ever since, another example of conventional wisdom confounded. In its most recent long-term forecast, the U.S. Bureau of Labor Statistics predicts the rate will hit 60.1% in 1995 and 62% in 2000. Not likely, says the Easterlin school, because as relative wages of husbands improve in the 1990s, women will work less.

Now he's gone too far, you say. Though Easterlin cites survey data to buttress his point, Macunovich's students at Williams, an elite school that attracts careerists of both sexes, were doubtful. So last year they polled their fellows on childbearing attitudes. They found that 87% of female and 95% of male students expected to have two or more children. Women said they intended to cut weekly work hours from 44 to 18 while taking care of young children.

There's other corroboration. *Parenting* magazine found that 57% of its readers in 1990—average age, 30—planned to have more children, up from 44% in 1987. The percent of full-time homemakers rose to 30% from 26%. Yankelovich Clancy Shulman, a Westport, Connecticut, market re-

REPORTER ASSOCIATE *Joshua Mendes*

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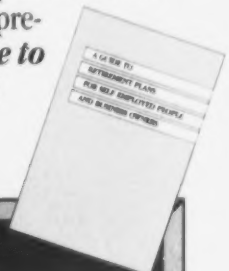

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search firm, found that 28% of working women in 1990 wanted to quit their jobs to put more energy into being mothers and homemakers—nearly double the share in 1981. "In practical terms, most women will still have to work because they need the money, but our research shows they are not as committed to their careers, and so will work fewer hours, travel less, and take less work home," says YCS senior vice president Susan Hayward. "The job must share time with husbands and kids."

MARKETERS should heed the implications. The U.S. Department of Agriculture calculates that a middle-income American family will spend $120,000 in 1990 dollars to raise a child to age 17, before paying for college. *American Baby* magazine projects that, based on trends that began in the 1980s, an increasing number of couples will have a second and third child in the next few years. Larger families spend less per child, but the total dollars build into a mountain.

The USDA also found that though 59% of wives without children work full time, the proportion drops to 31% for wives with a baby and to 18% when other children are also present. Some moms switch to part-time jobs, but after-tax family income still falls 10% to 20% on average. Outlays drop only 6%, but what a difference in the mix. Feeling as if they're spending the entire GDP on diapers, formula, pediatricians, and babysitters, parents won't be much in the mood to shell out $100 for a Broadway show, plus dinner and parking.

Such shifts could upset business plans seemingly based on obvious truths. For example, a marketing report from McKinsey & Co. expresses the widely held view that eating out will claim a significantly greater share of consumer food dollars by the year 2000. The USDA, however, finds that after baby's arrival, such spending plunges 44% while food-at-home outlays rise 29%. Cost-conscious families may think twice about even fast food—sales growth has slowed markedly in recent years.

If you've got any doubt that babies are in and are affecting consumer behavior, just check out your favorite romance novel emporium, where you'll find the likes of *Baby Aboard*. "Carson was in the mood for love, all right—but were Lisa's enticing ways enough to lure him to marriage . . . and a baby carriage?" Hint: On the last page, Carson closes his eyes as he holds her, saying: "A family. Yes. That's a promise." F

WHAT'S POWERING MEXICO'S SUCCESS

First, there's the crackdown on corruption—some business and labor leaders have gone to jail. Then there's the sell-off of state companies. President Salinas means business. ■ *by Nancy J. Perry*

THE NEWS from Mexico sounds too good to be true. The economy is growing at about 4% a year. Inflation has dropped from 160% a year to less than 20%. Tariffs running as high as 100% during the protectionist Eighties are down to 20% tops, and would disappear altogether under the North American Free Trade Agreement now in the works.

Astoundingly, since the mid-1980s more than three-quarters of Mexico's state-owned companies have been privatized. And 81 million consumers have more to spend than they've had in a decade. Makes any red-blooded capitalist want to pack his wares, buy a Spanish dictionary, and set up a little *tienda* south of the border tomorrow morning.

One caveat: Tomorrow morning might be too late. After years of protectionist policies and a decade of nearly terminal recession, aggravated by falling oil prices and rising foreign debt, Mexico under President Carlos Salinas de Gortari is snapping back with an energy and intensity that is startling. Other Mexican leaders have tried in the past to reform the country's ponderous, corruption-ridden economy. But none ever went as far or as fast as Salinas, 43, a Harvard-trained economist who was Budget Minister before being elected President in 1988.

He has been ruthless in restructuring industry. When the bloated steel industry is fully privatized, the work force is anticipated to plunge from 25,000 to around 10,000. The government expects to complete the sale of all state companies by next fall. Salinas pledges that the estimated $4 billion the government will receive will go toward reducing the national debt. He has also been tough on the clubby business community. He has sent some prominent business and labor leaders to jail for corrupt practices and started a campaign against tax evasion.

REPORTER ASSOCIATE *Patricia A. Langan*

MEXICO

1990 figures

Population	81.1 million
Per capita GDP	$2,931
Trade balance	-$3,026 million
Inflation rate	20%
% of population under the age of 40	80%
% of people with a college degree	3%
People per doctor	624
People per telephone	9
People per PC	81

SOURCES: IMF, INT. STATISTICS, MEXICAN EMBASSY, MONTERREY TECH, WORLD ALMANAC, COMPUTER WORLD, WHO

American managers have begun to notice. General Electric Chairman Jack Welch spent a week there last year and promptly moved a top corporate officer into the country. Up to then, GE had run its Mexican businesses from Texas. Says Jeffrey Gannon, the new chairman of GE Mexico: "For companies wanting in, if you wait for the trade agreement to be signed, you'll miss an opportunity."

Most likely, the Bush Administration won't push the trade deal until after next November's election. If the President is reelected, it stands a good chance of enactment. If he loses, all bets are off. Still, confidence among Mexican business leaders is at an all-time high. Says Gustavo de la Serna, 65, a retired IBM executive who runs the Mexican Business Council for International Affairs: "I will mark my 50th anniversary of working next November. I've been directing American companies most of that time. I was never optimistic. At this moment, I am optimistic."

So are a growing number of foreign investors. Economist Rogelio Ramirez de la O reports that $2.6 billion of the country's $9.7 billion in net capital inflows last year came from direct foreign investment in plant and equipment, as opposed to repatriated wealth and investments in stocks and bonds. This year he says that number should reach $3.5 billion.

Who's investing? In recent months Wal-Mart announced a joint venture with Cifra, Mexico's largest retailer, to open wholesale clubs in Mexico City. Nissan plans a $1 billion expansion of its assembly plant in Aguascalientes. And Corning has signed a $300 million strategic alliance with Vitro to sell tableware in Mexico and the U.S. Most recently, Zenith said it would close its manufacturing operations in Taiwan and move more than 600 people to its existing operation in Mexico.

And those are the latecomers. In September, Wisconsin's Kohler Co. fired up the kilns at its new $42 million toilet and sink manufacturing plant near Monterrey. Kohler eventually will produce and export 1.5 million units a year. In the past year Compaq Computer, Lotus Development Corp., and Microsoft opened subsidiaries in Mexico City. Franchises, including McDonald's, Pizza Hut, Baskin-Robbins, and Athlete's Foot, are spreading faster than bad Wall Street jokes. The resulting need for help is a business consultant's dream: Price Waterhouse in Monterrey is getting so many inquiries from U.S. companies curious about doing business in Mexico that it will set up a unit just to answer their questions.

continued

The lure is obvious: Mexico is loaded with import-hungry consumers. In 1990 capital goods imports rose more than 40%, to $6.8 billion. IBM expects computer industry sales in Mexico to grow 400% by the year 2000. Car purchases passed their 1981 peak for the first time in 1991. The country also has low-cost labor and abundant raw materials, including oil and various minerals.

But the country's biggest selling point is something else. Mexicans call it *ganas*, or desire. Spend two weeks in industrial centers such as Monterrey and Mexico City, and you'll bury forever the image of the lazy Mexican snoozing under a cactus. People are working 12-hour days. Says Juan Gallardo, who heads a group of 200 Mexican business executives who are advising the government on the Free Trade Agreement: "Our competitive juices have started flowing." In one particularly industrious endeavor, a nonprofit organization in Monterrey called Proexport has set up a team that is analyzing all the companies on the FORTUNE 500 in order to determine whether manufacturing or selling in Mexico makes sense for them. The message is clear: Mexico means business.

This is not to say that setting up shop south of the border is a bowl of tortillas. Warns Jorge Lankenau, chairman of Abaco, a large brokerage firm: "In the U.S. everything is permitted unless it is prohibited. Here everything is prohibited unless it is permitted." The country is still a good-news, bad-news situation. But the bad news is waning, and the good news is spreading. For instance:

■ **LABOR QUALITY.** The average Mexican has only a sixth-grade education, and just 3% of the people have college degrees. But if properly recruited, trained, and motivated, Mexican workers can be as productive as their U.S. counterparts. Top executives at IBM, Ford, Procter & Gamble, A.O. Smith, Kohler, GE, and Caterpillar all rave about the quality of their work forces in Mexico. An MIT study in 1990 named Ford's Mercury Tracer plant in Hermosillo the highest-quality assembly plant in the world. The head of IBM Mexico, Rodrigo Guerra, reports that "for every dollar you pay a Mexican engineer, you get more from him or her than you'd get in other societies around the world." *continued*

GE says the gas ranges it makes at its Mexican joint venture are as good as any in the world.

PHOTOGRAPHS BY SERGIO DORANTES—SYGMA

Wages are rising, and consumers, like this woman in Mexico City, are looking for quality goods.

■ **LABOR COST.** Though wage rates remain well below those of the U.S., they are rising fast in part because of high demand for workers. Says Nicholas Scheele, who has been Ford's Mexico manager for the past three years: "We didn't come here for low wages. From Ford's perspective, Mexico's biggest benefit is its exploding domestic demand." Management salaries are as high as or higher than in the U.S., largely because demand outstrips supply.

■ **INFRASTRUCTURE.** Spend time in Mexico and you'll never complain about AT&T again. Economist Rogelio Ramirez reports that his home phone was broken for three months before a repairman showed up. Busy circuits and sudden disconnections are common. The mail is worse: Until recently, anything ordered from a catalogue had a good chance of being stolen before delivery. (Federal Express has given mail order new life.) Ports and railroads? How's your sense of humor?

But conditions are improving rapidly. Since being privatized in 1990, Teléfonos de México has begun a huge modernization program. Cellular phones and fax machines abound. When it comes to building highways, the U.S. could take a lesson from Mexico, which has turned the job over to private companies. Most new roads are toll roads. The builders agree to turn the roads over to the government after collecting tolls long enough to recoup their investment plus a reasonable profit.

■ **CONSUMER MARKET.** Average per capita income is only $2,931—not exactly enough to support a mass market for most products. Despite rising wages, inflation has cut purchasing power of ordinary Mexicans by at least a third since 1980. But price increases have slowed, thanks in part to cheaper imports as a result of tariff cuts. And the wage increases that will accompany Mexico's economic growth will help too. Jeff Gannon says that pay at GE Mexico grew about 25% in 1991.

That's helpful, because pent-up demand for quality goods and services is huge—one reason that companies such as P&G, Colgate, and Kimberly Clark stuck it out in Mexico during the miserable money-losing Eighties. There is also a thriving underground economy—a mob of plumbers, shopkeepers, and entrepreneurs who happily use the money they save not paying taxes to buy cars and Crest. Says Claude Salomon, president of P&G's Mexican operation: "The huge growth of the underground economy has been more important than anything else in creating the beginning of a middle class."

What does Mexico need most? Anything, it seems, that begins with a C: corn, capital goods, cars, cosmetics, computers, components, consultants, construction equipment, canned goods, clothes, cable TV, and cellular phones. But what sells in the U.S. might not sell in Mexico. P&G, which has been marketing there since 1948, produces sudsier laundry detergents that make washing clothes by hand easier. And Mexican consumers have become far more selective and quality conscious than they were ten years ago, when they had fewer options. Says Gannon: "In the past, what sold was the cheapest product. Now the people want quality, warranties, and local service."

As a result, companies that previously sold through agents or dealers are opening sales subsidiaries and warehouses in Mexico to provide both technical and moral support to their customers. Says Manuel Parra, vice president of Compaq Latin America: "Customers in Mexico are more loyal than in the U.S., so you have to spend a great deal of time understanding their needs and showing that you are interested in a long-term relationship." Compaq opened its first Latin American subsidiary in Mexico City in June and expects sales of personal computers in 1991 to be double what they were the year before.

ALTHOUGH nearly three-quarters of Mexico's economy is now open to 100% foreign ownership, rules vary greatly by industry. Railway transportation, mineral extraction, and everything having to do with petroleum are still closed and are likely to stay that way for some time. Best advice: Hire a lawyer, or contact Jaime Alatorre, president of the Mexican Investment Board in Mexico City, whose staff can direct you to the right government agency, give you information on regulations, and introduce you to a banker.

For companies wanting to manufacture in Mexico, besides setting up a wholly owned Mexican subsidiary, there are three main approaches: the *maquiladora*, the so-called shelter operation, and the joint venture. The *maquiladora* program, created by the Mexican government in 1965 to generate jobs and revenue, works best for companies aiming to export most of their goods back to the U.S. It allows manufacturing, assembly, or processing plants—known as *maquiladoras*—to import materials, components, and equipment duty-free; in return they use Mexican labor. When the completed product is exported to the U.S.,

the *maquiladora* pays duty only on the value added in Mexico.

Maquiladoras now can sell up to one-third of their output in Mexico—instead of exporting all of it—and they are no longer confined to border areas. Nor are they the sweatshops that many once were. Some are gleaming, high-tech showcases employing the latest management techniques. At A.O. Smith's electric motor plant, for instance, teams of production workers operate unsupervised, making their own decisions and recording results hourly on the number of defect-free motors and rejects they have produced. At the end of each shift, employees meet to discuss results, quality problems, scrap costs, and how to do better in the future. So far, turnover and absenteeism are less than 2% per month—better than at many of the company's U.S. plants.

SHELTER OPERATIONS are the choice for companies that want the advantages of manufacturing in Mexico without the risk. Shelter operators are independent contractors who for a fee will take care of the costly and time-consuming administrative aspects of starting a foreign manufacturing venture, such as site selection, labor negotiations, personnel recruitment, and nontechnical training.

Initially, the shelter operator owns the factory and bears most of the startup costs. After a period of time agreed upon in the initial agreement, the U.S. company can buy out the shelter operator at a preset price and continue running the business.

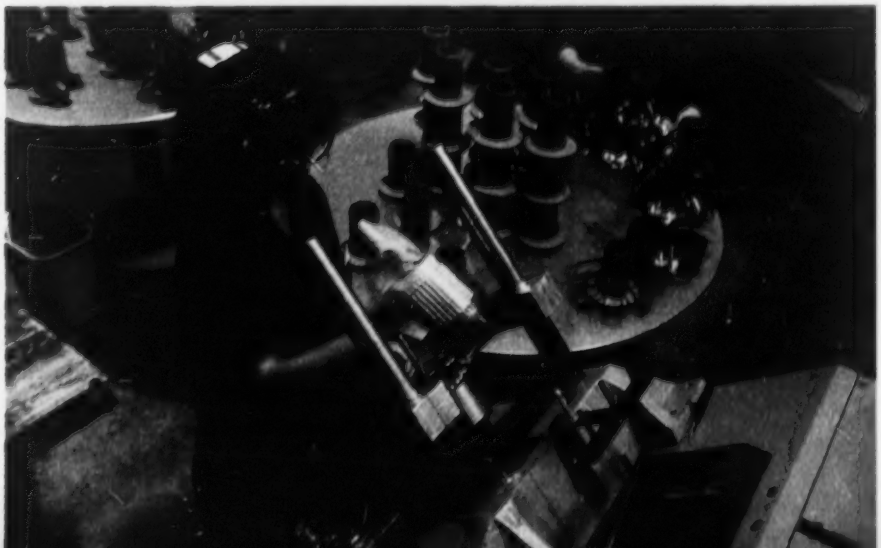
A joint venture is the best approach for U.S. companies planning to manufacture mainly for the Mexican market. Such a venture provides the comfort of having a local partner who knows the territory. For example, Alfa Industrial Group takes in about half of its $2.2 billion in annual revenues with foreign partners such as Ford, Du Pont, and Stone Container.

GE's Jeff Gannon notes that in "one of the best successes we've had anywhere," GE formed a joint venture in 1988 with MABE, one of Mexico's largest appliance manufacturers. The following year the two companies opened a gas range plant in San Luis Potosí. This year it will turn out 800,000 units—"the best gas range going"—to be sold in the U.S., Canada, and Mexico.

John Pfeffer, who worked in Mexico for Caterpillar from 1969 to 1972 and returned last July as managing director of its Conek plant, is amazed at what a difference two decades has made. "The ease of doing business has changed dramatically," he says. "People want to help you now. It's absolutely incredible."

To cash in on this kinder, gentler Mexico, the best advice is to keep an open mind. Don't assume anything will work—or won't work. Take the case of Pace Foods. In 1990, Pace went to Mexico City to film three commercials for Pace Picante Sauce, which it sells in Texas. One ad featured a supermarket end-aisle display stacked with jars of Pace's hot sauce. Upon returning to San Antonio, the crew left all the jars behind, telling the store manager to go ahead and sell them if he could. A few weeks later, Pace got a phone call from Mexico City. "I've sold all 350 jars," said the manager of the supermarket. "What do I do now?" Pace now has a hot new business—selling salsa in Mexico.

At this A.O. Smith electric motor plant near Monterrey, teams of workers make their own decisions.



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THE BIG DRIVE TO REDUCE DEBT

With credit tight and bond ratings in the tank, companies are pursuing new strategies to deleverage. But good luck selling assets—unless an overseas buyer turns up. ■ *by Anne B. Fisher*

SUMNER REDSTONE doesn't mince words. In 1987 the CEO of National Amusements acquired Viacom—which includes Nickelodeon and MTV—and piled debt of nearly $3 billion onto it. Everyone who works for Redstone, and lots of people who don't, know what he wants now: Get Viacom's debt down—way down—or else. At a recent junk bond conference in Greenwich, Connecticut, Redstone told several hundred Wall Street analysts, institutional investors, and executives from other companies that had issued high-yield bonds: "This is the last conference of this kind that you will see us attending. And if you do see us again next year, we'll have a new chief financial officer."

Although he's more outspoken than most, Redstone, 68, isn't alone. You may as well get used to the rather ungainly verb "deleverage," since we'll all be reading and hearing it for years to come. Consider the findings of Indepth Data, an investment research firm in Oklahoma City: In 1986, in the midst of the takeover and LBO frenzy, all of corporate America took a mere $2.2 billion in debt off its books by way of exchange offers, tender offers, and redemptions. In 1991, as of early December, the figure was $11.2 billion—including about $3.4 billion that was "vaporized," in financial analysts' Star-Trekkish lingo, by bankruptcies (see chart).

Companies have plenty of incentives to get rid of the costly debt they shouldered in the Eighties. Credit—the lifeblood of any business, and all the more so for a growing company—is harder to come by now that bankers have turned tightwad. The lower the ratio of debt to equity, the easier it is to refinance bank debt, borrow in the commercial paper markets, and maybe even get an upgrade from the bond-rating agencies. "Companies aren't rushing to get rid of debt because they suddenly woke up and got religion," observes Louis Lowenstein, a professor of finance and law at Columbia University. "It's because deleveraging is now inevitable. There's simply no choice anymore."

Deleveraging takes many forms—some familiar, some less so. Falling interest rates have inspired a stampede by corporate financial managers to restructure their balance sheets by swapping high-cost debt for cheaper obligations. Issuing stock is suddenly wildly popular, although it doesn't carry with it the tax deduction for interest payments that borrowing offers. Private placements and other innovative tactics that bring debt-free cash infusions are in vogue too. Some companies have tried, with varying degrees of success, to raise money for debt reduction by selling assets. The most common strategy now is a combination of maneuvers: Issue new equity, retire pricey old bonds and maybe float some new ones at a lower rate, and unload some assets if you can.

In this, George S. Smith Jr., 43, Viacom's chief financial officer for the past four years, is fairly typical—and Redstone seems likely to let him keep his job. Between 1987 and 1990, Viacom sold assets and paid off $600 million in costly bank debt. It then extended the maturities on some notes from 1991 to 1998, issued $200 million in senior subordinated debentures at a relatively comfortable 10.25%, and retired all of its 15.5% bonds. The ever lighter interest burden has let Viacom keep investing in its fastest-growing businesses. Last August, for instance, the company parted with 2.2 million shares of common stock to snatch MTV Europe from the late Robert Maxwell's sinking ship. As a result, Viacom is now so healthy that some analysts think it could be a prime candidate for acquisition if Redstone, who still owns about 75% of the stock, ever agrees to give it up.

As Lowenstein argues, the urge to deleverage, however laudable, is rarely voluntary. In 1989, federal bank regulators started pressuring commercial banks and savings and loans to stop lending to companies whose bonds had fallen below investment grade because their balance sheets showed high debt-to-equity ratios. The leverage-happy Eighties left only about 400 corporations' bonds in the investment-grade category, and the so-called HLT (for highly leveraged transaction) list of the bank watchdogs now blackballs most U.S. companies. Nearly 95% of those with annual sales of more than $35 million are in the junk bond brigade.

George Smith has been paying down Viacom's $3 billion in IOUs.

No wonder, then, that net new bank loans to nonfinancial companies dropped through the floor, from $33.1 billion in 1989 to just $2 billion a year later. "The federal government, when it acts with a blunt instrument, can make a bad situation worse," says Karl von der Heyden, who ought to know. As chief financial officer of RJR Nabisco, von der Heyden, 55, has been steadily wrestling down the $29 billion in debt the company took on in its 1989 leveraged buyout. Much to bankers' and borrowers' dismay, the feds' HLT definitions ignore cash flow—more technically known as Ebitda (earnings before interest, taxes, depreciation, and amortization). "A lot of companies, including our own, got caught in this web even though our cash flow is very strong," von der Heyden complains. "A bunch of arbitrary balance sheet ratios have replaced what should be sound credit analysis, and these rules have aggravated the credit shortage."

His situation looks cheerier now. Asset sales of $5.5 billion, a cash infusion from controlling shareholder Kohlberg Kravis Roberts, and the proceeds from a series of huge common and preferred stock issues pushed RJR's total debt down to $14 billion by December 1991. Acknowledging von der Heyden's deleveraging drive, both Moody's and Standard & Poor's elevated RJR bonds to the nonjunk elite. That helped bump the company off the infamous HLT list. RJR has negotiated a new $6.5 billion line of credit with 60 banks at about 5%, two percentage points less than it had been paying. Von der Heyden predicts that interest expense will fall at least $270 million a year.

Here's a closer look at deleveraging strategies for the debtlorn:

■ **Issue equity.** RJR, Viacom, and hundreds of other companies have been aided in the war on leverage by two fabulous strokes of luck: tumbling interest rates, which steer investors away from T-bills and CDs, and the resulting bull market in stocks. Issues of new equity hit a record $61 billion as of December 1991, sailing past the previous high of $57 billion in 1986.

So attractive and forgiving has the stock market become that many companies are trying to use it as a lender of last resort. General Nutrition Corp., the Pittsburgh-based vitamin and health food retailer, was saddled with $62 million in increasing-rate notes paying nearly 19% after it went private in 1989. The original plan was to retire those notes quickly, using lower-cost bank credit, but General Nutrition ran smack into the HLT ceiling and couldn't borrow a dime. Last summer the company filed a $100 million debt offering with the Securities and Exchange Commission, then let it languish after investment bankers sold management on an equity offering instead. "We were planning to pay off the most oppressive debt with cheaper debt," says Robert Dunn, a senior vice president. "But equity is the best money to get."

Some companies have taken advantage of hybrid issues that bring the tax benefits of debt at far lower cost. Last November Eastman Kodak sold $975 million worth of limited-yield option notes, or LYONs—zero-coupon bonds that are convertible to

PETER CARLSON

The dean of deleveraging: RJR Nabisco's CFO Karl von der Heyden has sliced $29 billion of debt in half.

common stock. Kodak makes no payments now—it shells out 6.75% annual interest when holders convert to common, say, or when the bonds mature in 20 years. But the company can write the interest off its taxes each year in the meantime. At first the Internal Revenue Service looked askance at the idea but then wrote a policy letter agreeing to leave it alone for now. Paul Smith, 56, Kodak's senior vice president for finance, is using the proceeds to pay down higher-priced debt. "We did this for three reasons," says Smith. "Cash flow, cash flow, and cash flow."

PETER GREGOIRE

Paul Smith of Kodak's concern: "Cash flow, cash flow, cash flow."

■ **Take all or part of a subsidiary public.** Want to pay down debt by selling assets? Can't find a buyer? Not to worry. With any luck at all you can take a division or subsidiary public, and maybe even get a better price for the stock than you could from an acquirer. National Intergroup, the conglomerate that used to be National Steel, has taken this tack more than once. A nasty proxy fight with an investor group ended in September 1990 with a new board of directors. They decided to liquidate the whole company, selling off the grab bag of businesses that National Intergroup had acquired in the Eighties. The largest was a $3-billion-a-year wholesale drug distributor called FoxMeyer, in Carrollton, Texas. FoxMeyer was on the block for several months, but nobody offered National a price the directors could live with.

So last summer FoxMeyer issued 10.3 million shares of common stock and forked over the $106 million net proceeds to National, which still owns 67% of the company. National used the money to pay down most of its long-term debt. National has now decided to stick with FoxMeyer, which accounts for about 90% of National's total sales. The other 10% comes from a chain of variety and craft stores called Ben Franklin. National wanted to sell that too, but couldn't entice any takers. In November the parent company filed a new stock registration with the SEC to take part of Ben Franklin public.

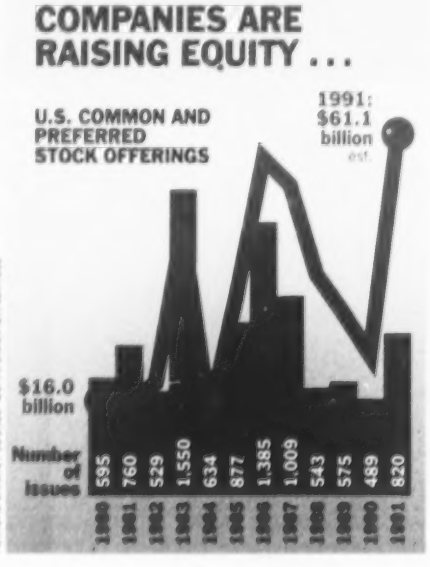
Selling off a subsidiary to new public shareholders doesn't always work. Unisys Corp. tried for at least a year to unload a defense electronics division now called Paramax, hoping to use the money to pay down debt. But with the Cold War fading into history, no suitors materialized. In September, Unisys and Lehman Brothers, the lead underwriter, announced a plan to take Paramax public and sell 20 million shares at $22 to $25 apiece. Unisys expected to reap $332 million in cash.

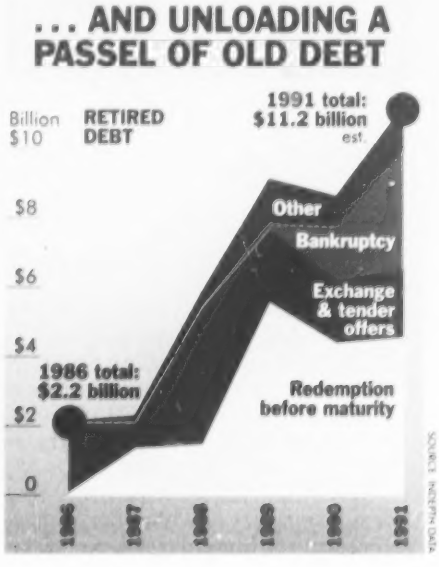
It was not to be. Wall Street greeted the idea of another defense stock with boos and hisses. Unisys recognized that nobody was going to pay anywhere near $22 and withdrew the offering. Unisys Chairman James Unruh said that getting rid of Paramax at "fire sale prices" would not serve the interests of Unisys shareholders. Observes an investment banker at Morgan Stanley, who asked not to be named: "You can take almost anything public at *some* price. But a dog is still a dog."

■ **Sell assets.** Companies that are determined to deleverage by selling assets can still do so, as McDonnell Douglas demonstrated a couple of months ago when it announced it would sell a portion of its commercial aircraft division to Taiwan Aerospace. McDonnell aims to use the huge cash infusion from the deal to slash its existing debt of $2.7 billion, which is 42% of its capital.

Like the aircraft maker, other would-be asset peddlers may find they have to go overseas to find acquirers with deep pockets. Carl Ferenbach, a partner in the Berkshire Partners LBO firm in Boston, says today's U.S. buyers are now paying barely 60% of what the same assets would have fetched in the late Eighties. Notes Richard Jenrette, 62, chairman of Equitable Life: "In this economic climate you have to comb the world to find financial flexibility. To paraphrase Blanche DuBois, many companies are now depending on the kindness of strangers." His is one of them. Last July, as part of an effort to cut long-term debt in half, Equitable sold a 40% stake to French insurer Groupe Axa for $1 billion.

AMI, a for-profit hospital chain based in Dallas, went on a $1 billion worldwide selling spree to pay off debt from its 1989 leveraged buyout. The company divested itself of four hospitals in Switzerland and one each in Greece, Spain, and Singapore. The average price in those deals was more than six times the yearly cash flow from the hospitals. At the same time, AMI sold five psychiatric hospitals in the U.S. for about





four times their cash flow. "We got much better prices internationally than we expected," says Wendy Simpson, 42, the chief financial officer. "It made up for the shortfall in prices here at home." In Spain, exchange rates moved in AMI's favor, too, Simpson adds: "Between the time we sold that hospital and the day we actually got our money out, we made an extra $1 million."

The feverish assault on leverage may be slowing down economic recovery.

W.R. Grace, the $7-billion-a-year conglomerate headquartered in Boca Raton, Florida, considered issuing stock and using some of the proceeds to retire debt but decided to sell assets instead—$1.5 billion worth by the end of 1992. "For a company that's already publicly held, issuing more stock isn't magic," says J. P. Bolduc, 52, Grace's president and chief operating officer. "Your shareholders suffer dilution, and then—unless you have a terrific acquisition in mind—you're sitting there with cash on your books and the Wall Street guys start telling you to buy in your own stock."

Bolduc doesn't ever want to do that. His boss, Chairman J. Peter Grace, has often said companies that buy in their own stock are signally ill-managed. Analysts think Grace can get decent prices for the odd assortment of businesses it has put up for sale, which include oil-drilling Grace Energy, a Caribbean fertilizer operation, and a manufacturer of organic chemicals. In 1991 the company sold three businesses to bidders from the Netherlands, Germany, and Norway for a total of more than $250 million. Future acquirers may be foreign too.

■ **Dream up a new kind of deal.** The quest for fresh capital invariably yields some innovative schemes. Debt-strapped Weirton Steel of West Virginia scraped up enough cash to complete badly needed modernization of a hot strip mill through a deal with one of its suppliers, the iron ore and pellet producer Cleveland-Cliffs. Cleveland came to Weirton last summer to ask whether the employee-owned company would like to sign a long-term purchasing agreement. Weirton's answer: Yes, if you'll buy a stake in us.

Cleveland ended up taking 500,000 shares of a new Series B preferred stock issue for $25 million, which relieves Weirton of having to issue any new debt. In exchange, Weirton agreed to purchase a minimum of a million tons of ore and pellets annually from Cleveland for the next 12 years—something the steel company might have done anyway. "Even in a weak year we use at least a million tons, and Cleveland's prices are competitive," says a Weirton manager. "So it was a win-win deal."

■ **Try a sale-leaseback agreement.** A similar harmonic convergence occurred last June between IBM and Zale Corp., the largest U.S. jewelry retailer, which has been staggering under a $1 billion debt load from its 1986 LBO and may yet land in bankruptcy court. IBM had just launched its Integrated Systems Solutions Corp. (ISSC), a subsidiary created to provide data-processing services to companies that want to outsource their computer operations (FORTUNE, September 23). ISSC hoped to expand its potentially juicy business of selling data-processing help to retailers. Zale sorely needed a shot of cash; it is in default on its bank loans and plans to close about 400 stores nationwide.

So ISSC bought Zale's huge data-processing center for an undisclosed price and signed a ten-year contract to lease computer services back to Zale at a discount. "This has not been a good market to sell assets in," notes Andreas Ludwig, 33, a director and assistant to the chairman at Zale. "So we did the next best thing: a sale-leaseback agreement that was structured, for our balance sheet purposes, like an outright asset sale."

■ **Consider a private placement.** The number of these arrangements, wherein a limited number of wealthy investors pump cash into a company in exchange for part ownership, doubled from 1990 to 1991, according to IDD Information Services. Last year about $13 billion changed hands this way. Ken Miller, 49, a former chief of mergers and acquisitions at Merrill Lynch, now runs Lodestar Group, a small New York City merchant bank that has taken minority positions in several highly leveraged companies through private placements. Says Miller: "If takeovers were the deal of choice in the Eighties, private placements are more typical of the early Nineties."

That's so for three reasons. First, selling a whole business may not be practical with acquisition capital so tight and U.S. buyers so leery. Second, since minority owners rarely demand much control over day-to-day operations, managers get the best of both worlds: a hefty helping of equity and no hassles. Third, and in sharpest contrast to a public equity offering, a private placement requires no SEC filings.

That difference can be criti-

An IBM sale-leaseback has Andreas Ludwig of troubled Zale Corp. smiling.

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cal. Suppose you're at the limit of your bank credit but you want capital to make an important strategic acquisition and you haven't got much time if you're to outbid a richer rival. An SEC filing for a public offering would in effect oblige you to freeze your business, making no material changes of any kind, for at least 60 days.

Here private placements can ride to the rescue. In early November the 1818 Fund, a merchant banking arm of Brown Brothers Harriman, put together a $40 million package for Western Gas Resources, a small Colorado natural gas company that wanted to buy a subsidiary of the much larger Union Texas Petroleum Holdings. The deal vastly increased Western's market share and profitability in one fell swoop. In return, the fund's 13 investors got 8% of the new, more robust enterprise. "A public offering would have been much too slow, and satisfying the SEC's disclosure rules would have been impossible because Western was in the process of radically changing the company," says Lawrence Tucker, 49, a Brown Brothers partner.

AS LONG AS BANKS have to obey the HLT regulations, the stock market keeps booming, and interest rates keep sliding downward, leverage-laden companies will continue finding ways to beef up the equity on their balance sheets and kiss their creditors goodbye. Refreshing as that may be after the debt orgy of the past ten years, it's not entirely for the good. The feverish assault on leverage, made necessary by bank regulators, may be slowing down economic recovery. The hundreds of billions raised recently in stock and bond offerings and devoted to paying down old loans are hundreds of billions not being spent on new projects that could create jobs and jumpstart economic growth.

Deleveraging can go only so far. The equity that vanished from balance sheets of U.S. companies in the Eighties may never be entirely replaced. Between 1980 and 1990, $640 billion was converted, one way or another, from equity into debt. In order to restore equity to its former level, companies would have to keep issuing new stock at their record 1991 pace for the next 17 years. Seems unlikely, doesn't it? No matter how hard they try to banish the ghosts of Eighties excess, plenty of companies will be saddled with costly old liabilities for a long time to come. F

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The Big Question for Election '92

FEBRUARY 24, 1992

VOL. 125, NO. 4

FORTUNE

ABOVE: Terry Roberts, photographed in Fort Worth by Brian Smith, prospered in the Texas oil boom but is now unemployed.

COVER: Smith also took these representative shots: the Schwartz family of suburban Chicago, Su Obman (left) in a rundown neighborhood in Pittsburgh, and Terry Biddle in Elwood City, Pennsylvania.

"I'm a Republican, but the party isn't helping those that put them in office. It could be that we need some New Deal programs." PAGE 38

THE ECONOMY/COVER STORIES

ARE YOU BETTER OFF? 38

That question from an earlier campaign will haunt Bush this year. The short answer: You probably feel worse off than you are. Who truly has lost ground over the past dozen years? Education equals prosperity —the less schooling you have, the farther you are likely to have fallen. *by Lee Smith*

GRIM TIMES IN NEW HAMPSHIRE MAY NOT HURT BUSH 46

AMERICA'S TOUGH NEW JOB MARKET 52

Look for plenty of opportunity but less security. More people will work in small companies and at home. Those who get the good jobs will be skilled, adaptable, and able to keep learning. *by Louis S. Richman*

POLITICS & POLICY

WILL YOUR TAXES GET CUT IN 1992? 63

Probably. The best bets are tax credits for the middle class, first-time homebuyers, and business investment. But hold the applause: The price may be a bigger budget deficit. *by Rob Norton*

SELLING

THE PRETTY PAYOFF IN CHEAP CHIC 71

Hardly anyone wants to spend a fortune on clothes anymore, so big-name fashion designers are racing downscale to attract newly price-conscious customers. *by Susan Caminiti*

TECHNOLOGY

HOW SONY KEEPS THE MAGIC GOING 76

Its engineers are the most prolific and innovative on the planet, turning out an average of four new products a day. One secret: Hire generalists and turn them loose. *by Brenton R. Schlender*

THE REAL GENIUS BEHIND SONY 82

The unassuming inventor and founder is revered in Japan much as America admires Thomas Edison.

CORPORATE PERFORMANCE

BLACK & DECKER'S NEW SELLING TOOL: THE ACURA CONCEPT 88

By abandoning its famous trademark, the company hopes to beat the Japanese. *by Patricia Sellers*

EQUIFAX: HOW TO SHINE IN A SULLIED INDUSTRY 89

The top credit-reporting firm got a good-guy image by catering to consumers. *by Laurie Kretchmar*

"All my friends think I'm crazy."

PAGE 10

"There hasn't been a decade in living memory when the population of potential entrepreneurs has been bigger."

PAGE 52

"We're going to dabble in the tax code this year. It's going to happen."

PAGE 63

"The key to success for Sony, and to everything in business and technology for that matter, is never to follow the others."

PAGE 76

"You have to have a culture that allows people to hustle."

PAGE 94

"I prefer the slight risk of being robbed by a thief to the certainty of being robbed by a state bank."

PAGE 104

CORPORATE PERFORMANCE

ALZA: GOT A GOOD IDEA? STICK WITH IT 92

A "Chicano with a green card" profits from new methods of administering drugs. *by Gene Bylinsky*

COMPANIES TO WATCH 93

California's BE Avionics delivers by outfitting the interiors of planes. *by Shelley Neumeier*

Also: Applebee's International and Bachman Information Systems.

MANAGING

MEET THE NEW REVOLUTIONARIES 94

Five hot companies have shut out competitors by rewriting the rules of their industries. How they did so holds valuable strategic lessons for any manager. *by Myron Magnet*

INNOVATION

PRODUCTS TO WATCH 103

A lower-calorie Milky Way, the first underwater 35-mm SLR camera, and more. *by Alison L. Sprout*

EXECUTIVE LIFE

MR. ROGERS TAKES HIS DREAM TRIP 104

The successful money manager went on an adventure of the sort most people only fantasize about. Among his souvenirs: investments in such emerging nations as Botswana, Bolivia, and El Salvador.

ROGERS ON BRIBERY: HOW TO GET RIPPED OFF 108

WHAT TO BUY WHERE 110

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 10

Best American cities for stocks, what the troubling Tokyo market means to the U.S., endangered stock options, CEOs help alma maters, and more.

FORTUNE FORECAST 21

With luck, the budget won't much harm an economy apt to rebound anyway. *by Vivian Brownstein*

Economic Intelligence: Recession benchmarks, who the rich are, and air travel *has* improved.

PERSONAL INVESTING 29

Can drug stocks keep flying high? Yes, but only the best of them. *by Shawn Tully*

Also: Schlumberger is ready to rise, where to find 10% yields, and Portfolio Talk with Michael Sherman of Shearson Lehman Brothers.

LETTERS TO FORTUNE 35

FORTUNE PEOPLE 111

A billionaire jettisoned, Frank Perdue skewered, and more. *by Alan Farnham*

BOOKS & IDEAS 112

Ever wonder where humanity came from, where it's going, why communism failed, or what Hegel was all about? Dip into the intellectual waters of Francis Fukuyama's new book. *by Michael Novak*

KEEPING UP 114

A word from the government, searching for a certain Senator (or the great mustache mystery), and other matters. *by Daniel Seligman*

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EDITOR'S DESK

FORTUNE's foursome of Washington watchers (from left): Ratan, Reilly Dowd, Smith, and Norton

ARE YOU BETTER OFF today than four years ago? Can you keep your job or find a new one? How about your kids? These questions are on the minds of Americans—and the answers will go far in deciding who is the next U.S. President. To assess the mood and get at the truth, our Washington bureau and a team from New York interviewed more than 50 economists, demographers, politicians—plus scores of people like you and me. The result: three provocative articles that get at the heart of why so many of us seem so gloomy.

At FORTUNE, we are blessed with journalists who have covered economic policy for years. Says Richard Kirkland, who oversees our political coverage and edited the lead cover story (page 38): "Following the ups and downs of Beltway shenanigans is not what we have a Washington bureau for. Our grist is economics—and that's issue No. 1, 2, and 3 in this election."

Washington bureau chief Lee Smith traveled to Texas and Pennsylvania talking with unemployed auto workers, successful entrepreneurs, and worried managers. While he found that, statistically, Americans have held their ground since 1988, many *feel* worse off. Says he: "There's a sense of disquiet about the long-term future." Adds Suneel Ratan, the story's reporter: "Parents are deeply worried about what kind of jobs their kids will get when they're out of school."

Many *should* worry. In "America's Tough New Job Market" (page 52), writer Louis Richman argues that unskilled Americans will be left in the economy's dustbin. Says Charles Burck, who edited the article: "Lou makes clear that education and training must become national priorities." Nor is the prospect for tax reform encouraging, according to Rob Norton, who detects in the latest proposals "an odor of unreality and flimflam that's strong even by Washington's standards" (page 63). All our work was informed by reports from Ann Reilly Dowd, who has been on the hustings with the presidential hopefuls, keeping abreast of their latest turns in rhetoric and reality.

Okay, now cheer up. I think you'll enjoy the fun-filled tale of Wall Street wonder Jim Rogers, who hung up his spreadsheets to tour the world by motorcycle (page 104). The piece comes with investing tips. Rev your engines and roll.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October, by The Time Inc. Magazine Company. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Joseph A. Ripp, Treasurer; Harry M. Johnston, Secretary. Subscriptions: U.S., possessions, one year (27 issues) $49.95; Canada, one year (27 issues) $53.73. Second-class postage paid at New York, NY, and at additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer inquiries: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000.
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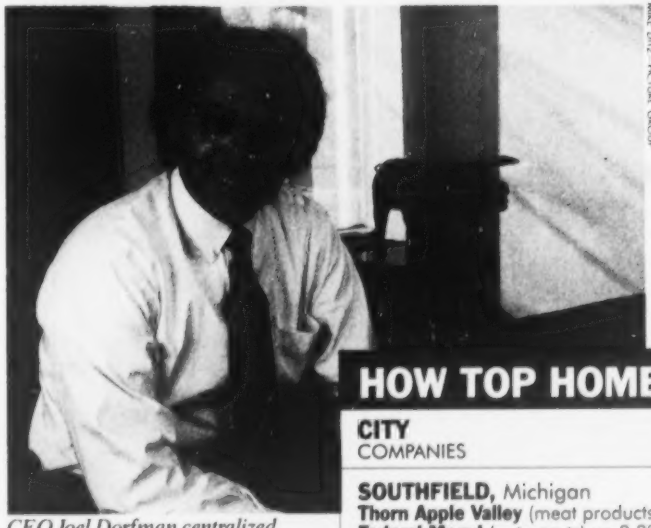


MIKE DIAZ - PICTURE GROUP

CEO Joel Dorfman centralized sales at Thorn Apple Valley.

BEST AMERICAN CITIES FOR STOCKS

■ Most investors who back the home team by putting their money in locally headquartered corporations benefited from the overall stock market increase of 1991. The price of shares of the FORTUNE 500 industrial and Service 500 companies rose, on average, 40%.

Some big-company locales did considerably better than others, though. FORTUNE's second annual survey of cities with two or more such companies shows the Detroit suburb of Southfield, Michigan, as the biggest winner. Share price increases of sausage maker **Thorn Apple Valley** and of **Federal-Mogul**, an auto parts producer, gave Southfield stocks an average increase of 196.5%.

Thorn's 384% rise contrasts dramatically with 1990's, when the stock rose 39.3%. One reason for the change: a big turnaround. In 1990 the company lost $1.8 million on sales of $670 million, vs. a $32 million profit in 1991 on sales that increased 22%. Security analysts credit President Joel Dorfman, 40, for what happened. He centralized the sales force and concentrated on high-margin products like smoked sausage. He even got more meat off the hogs. Did Thorn's location help at all? Says Dorfman, whose father, Henry, 70, remains chairman: "It's easier to attract talented employees to Southfield than Detroit." Thorn has 60 executive and clerical types in Southfield and employs some 1,000 in its two Detroit processing plants.

Location may mean much more in Sunnyvale, part of California's Silicon Valley. It was the second-best city for stocks, thanks mainly to the 259% increase in the price of **Advanced Micro Devices** stock. Says CEO Jerry Sanders III, 55: "Sunnyvale is a microcosm of what America was and should be—a land of opportunity."

Like Thorn, AMD enjoyed a turnaround. It earned $145 million in 1991, compared with a $54 million loss the previous year. Last year's sales rose 16% to $1.2 billion. Driving this: the company's line of knockoff 386 microprocessors, the brains of most personal computers. AMD now has about 30% of that market, once the exclusive domain of **Intel**. – **Rick Tetzeli**

HOW TOP HOMETOWNS SCORED

CITY COMPANIES	Stock price change* during 1991
SOUTHFIELD, Michigan **Thorn Apple Valley** (meat products) up 384.6% **Federal-Mogul** (auto parts) up 8.3%	+196.5%
SUNNYVALE, California **Advanced Micro Devices** (microprocessors) up 259.0% **Amdahl** (computers) up 11.5%	+135.2%
WILSON, North Carolina **Standard Commercial** (tobacco) up 182.8% **BB&T Financial** (banking) up 38.6%	+110.7%
BLUE BELL, Pennsylvania **U.S. Healthcare** (HMOs) up 111.9% **Unisys** (computers) up 65.0%	+88.5%
OAKLAND, California **American President** (transportation) up 166.1% **Golden West Financial** (S&L) up 77.2% **Clorox** (soaps) up 12.3%	+85.2%

*Stocks traded under $1 per share not included.

FORTUNE TABLE / SOURCE: WRIGHT INVESTORS' SERVICE

THE BIGGEST LOSER

GLENDALE, California **Glenfed** (S&L) down 27.5% **Citadel Holding** (S&L) down 6.9%	–17.2%

PAY FOR PLAY AND ACTING HEALTHY

■ An incentive program designed by **Principal Financial Group**, a Des Moines insurer, gives prizes to second- to fifth-graders at the Longfellow Elementary School for good health care and study habits. Kids win for brushing their teeth, playing baseball, reading books, avoiding videogames, and attending all their classes. Parents keep tab.

Prizes include a backpack, a watch, and a chance to win a new bicycle. Not million-dollar items—but the program could save that much in lifetime health care costs and productivity. Says David Hurd, Principal's CEO: "The idea that we can light a fire at an early age is attractive." Adds school principal Mike Schaumburg: "We're working with children who don't have many tangible rewards. I endorse anything that gets them excited."

Some 75% of the students enrolled in the first ten days. Among them: Jamina McNear, 9, who wants to be a lawyer and an NBA player. She believes the program will "help my mental skills, my social skills, and my nutritional skills. And in my future, when I'm an adult, I won't have insurance problems." – **R.T.**

THE AMERICAN CARS GERMANS LOVE

■ The sexual initiation of a generation of American males has helped to make the 1957

Student McNear and CEO Hurd share an interest in good health.

BILL GILLETTE

PATRICK LABANCA

Herr Rossbach, collector of American classics, also uses a Cadillac back seat as a sofa.

Chevrolet Bel Air No. 1 among the growing number of Germans who collect U.S. cars made in the 1950s. So says Michael Fuchs-Rösner, who sells such classics in Wiesbaden. Maintains he: "Most American men had their first experience in the back seat of a Bel Air." If it worked for them, the logic apparently goes . . . Appropriately, Fuchs-Rösner also sells back seats as a separate item. Like other dealers, he visits auctions in California, Florida, and other states to buy the cars that are so, uh, hot in Germany.

Fuchs-Rösner's customers include Peter Rossbach, 56, who runs his own construction equipment repair company in Munich. He has nine U.S. classics, including a 1955 DeSoto (for which he paid $23,750) and a 1958 Oldsmobile limousine ($18,125). Rossbach also paid $9,375 for the back seat of a 1960 Cadillac Coupe De Ville, which he uses as a sofa. Says he: "All my friends think I'm crazy, but for me all this is a real hobby." **– Miriam Widman**

A BRIDE'S DOUBTS ABOUT MACY'S

■ And you thought the only people nervous about **R.H. Macy**'s filing for Chapter 11 protection were its banks, bondholders, and suppliers? At least one bride-to-be who recently signed up for the department store giant's bridal registry has the jitters too. "How do I know the store is going to have all the things I've picked out?" wonders the future Mrs. James Figliuolo of Hoboken, New Jersey. "I have enough to worry about with this wedding. I'm switching to Fortunoff."

Macy's says she need not be concerned. Shopping there won't be noticeably different, at least not right away. Shelves should be filled with new spring merchandise now that suppliers like **Liz Claiborne** know they'll be paid for future shipments. Still in question, of course: how much those suppliers will get of the $275 million Macy's owes them for goods shipped before the filing.

But customers may find it tougher to locate Macy's stores, which, with I. Magnin, Bullock's, and specialty shops, now total 251 outlets. Security analysts expect a replay of what the Federated and Allied retail chains did after going into Chapter 11 in 1990. They closed or sold 42 of their 260 stores and are set to emerge from bankruptcy by the end of February. **– Susan Caminiti**

STOCK OPTIONS ENDANGERED

■ Bad news for anyone who hopes to get employee stock options: Your chances just slipped a notch. It's nothing personal. The ever hotter issue of CEO pay has reignited a debate over what those options are worth—and how much they really cost the companies awarding them.

Options given by an employer as extra compensation are a wondrous thing. When the company's stock rises, they can give the employee a huge gain—which the company could have kept for itself by hanging on to the stock. Many accountants therefore think the value of stock options is one of those noncash charges (like depreciation) that should be deducted from income. Yet accounting rules decree that companies need not deduct *anything* when they give away options. Pay a CEO a $1 million bonus, and you reduce pretax profits by a million. Give him options that turn out to be worth $10 million, and reported profits don't fall by a dime. No surprise, companies have been shoveling options to top executives (see table for examples).

Most companies award options down through the ranks of senior managers and even below as long-term incentives. **PepsiCo**, **Du Pont**, and a few others have given options to every full-time employee. But CEOs get the most, and as a result, options now constitute about 33% of a typical CEO's compensation. Directors have been even more tempted to do this when a CEO's pay is under fire. Reason: The SEC does not require a company to value grants when reporting executive compensation.

All that may change. SEC Chairman Richard Breeden says companies should report a value for option grants because without it shareholders have no clear idea what executives are paid. The Financial Accounting Standards Board, which the SEC oversees, expects to reopen the question of how to value and report option grants—a matter it inconclusively examined in the 1980s amid a paroxysm of CEO anxiety.

New rules could have a powerful effect. Pharmaceuticals maker Rhône-Poulenc Rorer of Fort Washington, Pennsylvania, reported a $1 million profit in 1990, for example. But if the value of CEO Robert E. Cawthorn's 123,585-share option grant had been deducted, that profit would have become a loss of around $2 million. Such a change could fast curdle directors' love affair with options for top executives and everybody else.

Rewriting the rules could take months or years. And considering what chief executives have to lose, it won't happen without a fight. **– Geoffrey Colvin**

WHAT SOME COMPANIES GAVE OUT

Company	Options granted to all executive officers in 1990	Gains as of 1/29/92
Westvaco International	2,775,000	$37,087,875
H.J. Heinz	950,000	$5,106,250
Torchmark	1,116,300	$21,304,019
PepsiCo	1,504,944	$20,075,952

FORTUNE TABLE

MARLBORO MAN LOSES APPENDAGE

■ **Philip Morris**'s Marlboro Man is not about to disappear into a Parisian sunset. To fight

Cornell grads: the Derrs and daughter Karen

Those smokeless images promoting clothes and travel are already working well in Italy, where cigarette advertising has been banned for three decades. A poll of youths ages 11 to 15 showed that Marlboro had the highest awareness of any cigarette brand.

The EC will consider an all-Europe ban on cigarette advertising this month. Philip Morris clearly hopes that if passed, the law will have a similar loophole allowing the Marlboro Man to push cigarettes, however subtly—even if his own smoke has gone out. **– Carla Rapoport**

WHY JAPAN BASHING IS HYPOCRITICAL

■ The auto executives, politicians, and consumers working themselves into an anti-Japan frenzy ought to put down the sword and pick up the mirror. No question, Japan's import barriers to goods such as rice and the incestuous links between its industrial giants stack the deck against foreign competition. But James Bovard, a policy analyst at the Cato Institute and author of *The Fair Trade Fraud*, points out that the U.S. is no saint when it comes to free trade. He estimates that U.S. consumers pay an extra $80 billion a year to protect weak industries from international competition through thousands of tariffs (see table for examples), so-called voluntary restraint agreements, and such restrictions on foreign investment as a 25% limit on U.S. airline ownership and 49% of fishing companies.

Equating buying Japanese products with stealing American jobs "goes to the line—it's worse than a crime, it's a blunder," Bovard argues. "There's an effort to tar and feather any Japanese company crossing the border into this country. But a lot of them provide benefits and teach invaluable skills to our workers." Indeed, the most recent Commerce Department figures show that businesses with Japanese majority ownership employ more than 360,000 workers in the U.S. (see table for a sampling).

Many economists, including FORTUNE's, agree that the road back to American competitiveness will not be hedged with trade barriers. Rather, the productive path is paved with more savings, more investment in research and development, and much more education. **– Antony J. Michels**

JAPANESE EMPLOYERS IN THE U.S.

COMPANY	Number of jobs
Matsushita Electric	21,250
Sony	18,000
Toyota	16,400
Honda	13,700
Hitachi	8,500
Toshiba	8,500
Nissan	8,300
NEC	8,000
Mitsubishi	7,300
Fujitsu	5,000

CHIEF EXECUTIVES RAISING FUNDS

Name	School, Class
Robert Day, Trust Co. of the West	Claremont McKenna College, '65
Stanley Gault, Goodyear	College of Wooster, '48
Lloyd Johnson, Norwest	Carleton College, '52
William McCord, Enserch	Texas A&M University, '49
John McCoy, Banc One	Williams College, '65
Frank Popoff, Dow Chemical	Indiana University, MBA '59
Robert Pritzker, Marmon Group	Illinois Institute of Technology, '46
Richard Thomas, First Chicago	Kenyon College, '53
Roy Vagelos, Merck	University of Pennsylvania, '50
Leslie Wexner, The Limited	Ohio State University, '59

CEOs HELP THEIR ALMA MATERS

■ Colleges are reeling from a financial squeeze so serious that it often takes just the right kind of fund raisers—including alums who have made it to the corner office—to get the endowment money rolling in. Lots of CEOs are already trustees of the colleges they attended. But more are volunteering for extra duty, which usually means picking up the telephone and dialing fellow alumni and other possible benefactors for dollars.

Among them is **Chevron**'s Kenneth Derr 55, who received a degree in mechanical engineering at Cornell University (class of '59) and an MBA (1960). He specializes in putting the arm on alums on the West Coast (Chevron is in San Francisco). Cornell's target: $1.25 billion, of which some $600 million has already come in. The school won't divulge Derr's share.

Why is Derr helping out? Says he: "I have a special fondness for my college. While I was there, I went on a blind date with somebody who ultimately turned out to be my wife." Kenneth and Donna Derr were married in 1959. She earned a degree in human ecology the following year. Their daughter, Karen Gilbert, is also an alum (MBA, class of '85).

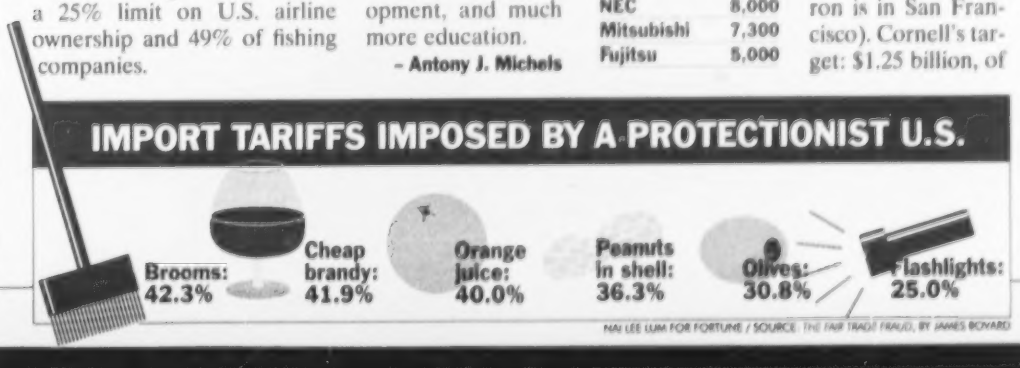
Mark McCormack, who heads International Management Group, the world's largest sports marketing organization, wants to raise $150 million for William and Mary, where he earned a degree in French in 1951. Says McCormack, 61: "I try to give something back to the place that gave me so much when I needed so much." (For other CEOs who think the same way, see table.)– **Jessica Skelly von Brachel**

NOW HEAR THIS

■ **VICTOR H. PALMIERI,** 62, turnaround artist brought in by New Jersey regulators to rehabilitate crippled Mutual Benefit Life Insurance:
"Strategies are okayed in boardrooms that even a child would say are bound to fail. The problem is, there is never a child in the boardroom."

■ **ALLAN GILMOUR,** 57, executive vice president of Ford Motor:
"Product development time is going to be a great competitive battleground in the 1990s—as intense, I would say, as the revolutionary push for quality in the Eighties."

IMPORT TARIFFS IMPOSED BY A PROTECTIONIST U.S.



NAI LEE LUM FOR FORTUNE / SOURCE: THE FAIR TRADE FRAUD, BY JAMES BOVARD

should be strong enough to withstand the dampening effect. But Cornell University behavioral economist Richard Thaler worries that it will reduce savings in the years ahead. Says he: "This is short-term thinking at its worst." The reason people overwithhold is that they want it that way, he says—"They like getting a lump-sum refund. It helps them save." Now they won't have this help. Nobody knows how many are likely to bother with filing the complex W-4 form required to undo the changes.

A behavioral economist calls Bush's withholding ploy "short-term thinking at its worst." It could reduce savings in the year ahead.

For the rest of his game plan, President Bush faces off with a feisty Congress. Debate is likely to drag on while Congress settles on the price it will extract for his long-sought reduction in capital gains taxes. Still, the election makes a compelling deadline, so fiscal 1993 might actually start with a budget in place—a rarity in recent years.

Whenever the budget does emerge, it will probably include some of the less

ECONOMIC INTELLIGENCE

WHO ARE THE RICH?

■ *Lady Hunstanton: "I am afraid in England we have too many artificial social barriers. We don't see as much as we should of the middle and lower classes." —From* A Woman of No Importance, *by Oscar Wilde.*

Despite gestures toward them by President Bush, the rich don't have many outspoken friends in Washington these days. Bush aimed most of his State of the Union proposals at the middle class. In refashioning his ideas, the Democratic-controlled Congress will surely tilt them further in that direction. It may very well try to raise taxes on "the rich," a notion that resonates so nicely on the hustings.

What kind of people would get hit? To most politicians, "rich" seems to start with a household income of around $100,000 a year. Included, of course, are the likes of Madonna and Michael Jordan. But about 2.5% of American households qualify, among them some 40% of FORTUNE's subscribers (congratulations). Most top-tier earners are in the $100,000 to $200,000 range. So even if you're fairly ordinary, you might still be smart, hard working, and lucky enough to be "rich"—at least for tax purposes. In contrast to Lady Hunstanton, however, you likely view yourself as middle class, having done very middle-class things to get where you are. Namely, according to U.S. census data, you probably went to college, became a manager or professional, worked full time, and married someone who works too.

There's also about a 40% chance you live in California, New York, New Jersey, Connecticut, or Massachusetts—states where your dollars don't go very far because of high housing costs and taxes. Runzheimer International, a consulting firm in Rochester, Wisconsin, calculates that a person in Los Angeles needs $100,000 for the lifestyle an income of $73,000 buys in Dallas. But in much of Washington's eyes, the Angeleno is undertaxed. **– Joseph Spiers**

REALLY, AIR TRAVEL HAS IMPROVED

■ "The hassle of the hub and spoke is a major negative," says air passenger Frank Shrontz. Though he happens to be CEO of the world's largest aircraft manufacturer, Boeing, plenty of ordinary passengers would agree. Trouble is, argue researchers at MIT, these fliers are measuring today's experience against a mythical golden era predating deregulation in 1978. Nonstop jet service, as they argue in the current *Sloan Management Review*, is "better than ever."

Operations research professor Arnold Barnett and his associates tested the common complaint by looking at 500 randomly chosen routes between the nation's 100 busiest airports. In 1977, they found, nonstop jet service was available on only 17% of these routes. By 1989 the share had risen to 27%. Reason? Besides the greater competition that deregulation brought, the growth of the hub-and-spoke system produced a major expansion of nonstop service between hubs. A further result: Flying is safer, since nonstop flights are less risky than those that make stopovers. The researchers didn't count the expansion of commuter flights by prop-driven planes, which surely would have revealed still greater gains in convenience—though not safety.

Their study complements earlier work by a National Academy of Sciences panel, which found that deregulation has increased competition, expanded service, kept fares from rising as fast as costs, and cut accident rates. But the panel also recommended against further mergers or acquisitions where carriers serve the same areas or share a hub. **– J.S.**

RECESSION BENCHMARKS

Who can remember a year that produced a more vivid crop of economic comparisons with the past than 1991? Here's FORTUNE's tally so far. If you can find a pattern, please write us.

Inflation *CPI 3.1%, lowest since 1986*
Housing starts *1,014,700, lowest since 1945*
Fixed mortgage rate *9.25%, lowest since 1978*
Housing affordability *best since 1977*[1]
Unemployment, December *7.1%, highest since June 1986*
Sales of U.S. cars and trucks *12.3 million, lowest since 1983*
Average age of cars on roads *8 years, highest since 1950*
Factory orders for durable goods *down 4.6%, worst decline since 1982*
Consumer confidence *lowest since 1982*[2]
Stock prices, adjusted for inflation *highest since 1968*[3]
Federal Reserve discount rate *3.5% at year-end, lowest since 1973*
Trade deficit *$65 billion, lowest since 1983*
Federal deficit as % of GDP *4.8%, highest since 1986*
Gross federal debt *$2.7 trillion, a record*
Business debt as a share of GDP *62%, lowest since 1985*
Business failures *88,000, a record*

[1] 115 on National Association of Realtors index. [2] Conference Board index: 68.5.
[3] Based on ratio of S&P 500 to consumer prices: 1991=2.76; 1968=2.84.

ARE YOU BETTER OFF?

That question from an earlier campaign will haunt Bush this year. The short answer: You probably feel worse off than you are. What separates the nos from the yeses? Education. ■ *by Lee Smith*

ARE YOU BETTER OFF than you were four years ago? Remember, that was the question with which candidate Ronald Reagan taunted—and ultimately devastated—President Carter a dozen years ago. You can bet the Democrats will revive that gibe this time around in hopes of achieving the same election result.

They are likely to have a point. According to a CBS News poll taken in late January, 32% of Americans declared themselves worse off than in 1988, while just 24% felt better off. (The rest felt about the same.) True, if a decent recovery surfaces by summer—as FORTUNE and most economists expect—voters should be feeling a little cheerier when they go to the polls in November.

Still, the picture right now is bleak. Since January 1989 growth in disposable personal income per capita has been flat—OK, to be fair, it's up 0.00007% compounded annually. The unemployment rate is currently 7.1%, nearly two percentage points higher than when Reagan rode out of office. Even using the forecast in the White House's latest budget, U.S. GDP during the Bush tenure will be up just 1.2% annually—the smallest four-year increase since Harry Truman's first term.

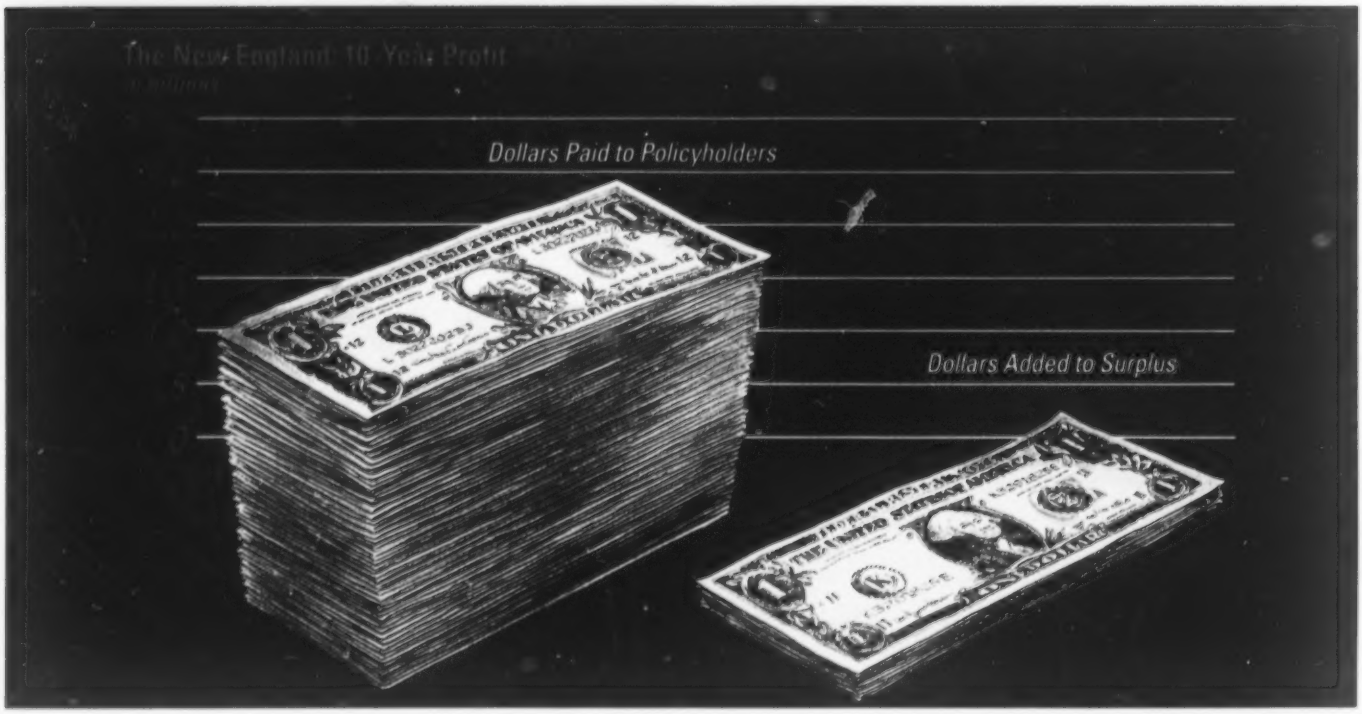
What's different this election year—are you listening, candidates?—is that simply comparing 1992 with 1988 is too limited an inquiry for most voters. So, since Christmas, FORTUNE has interviewed scores of people in occupations ranging from asset manager and architect to salesclerk and unemployed electrician. They live in Baltimore, Chicago, Fort Worth, Pittsburgh, and Los Angeles, the kinds of places where the election will likely be decided.

What these Americans are really worrying about is where they—and the country—are headed. In the 1950s and 1960s, U.S. GDP rose at a rapid clip and lifted all economic boats, the skiffs as well as the yachts. Those heady times ended abruptly with the oil shocks and stagflation of the 1970s. Reagan seemed to have the machine running again, but now it's sputtering. Was he on the right track, and is this just another recession? Or is it something worse—the final curtain call for a whole set of postwar expectations about income growth and America's place in the world? Is there a political leader out there who can make sense of it all and point the way?

Anxiety reigns. Consider the people pictured in this story. Probably no more than 20% or so of Americans will instantly identify with Donald Schwartz, 44, who

MAYBE **SU OBMAN, 29, an engineer for a small East Pittsburgh high-tech company, is making more than ever—over $35,000. But she's anxious about the future.**

PHOTOGRAPHS BY BRIAN SMITH



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YES **DONALD SCHWARTZ, 44, at home with wife Judy, daughters Sarah and Heather, and cocker spaniel Snickers, survived a merger between two big banks and now earns over $100,000 a year running a Chicago subsidiary that trades commodity futures.**

declares, "I'm unequivocally better off." Many who take that view undoubtedly come from the upper fifth of U.S. families. This group's pretax family incomes currently start at $67,000 and go up. Since 1976 the average after-tax earnings of this crowd, adjusted for inflation, have jumped 32.5%. That's a far steeper rise than in any other income category (see chart).

Armed with a doctorate in agricultural economics from Purdue University, Schwartz took a job with a Chicago brokerage firm in 1980. He sure wasn't in the top fifth back then. Eight years later Manufacturers Hanover hired him to run its futures and options business. When Manny Hanny merged with Chemical Bank this year, Schwartz survived. He says, "Of the 40,000 or so people in the combined banks, I was the only one who knew how to run the futures business."

As president of Chemical Futures & Options, Schwartz earns more than $100,000 a year (he'd rather not be precise). He and wife Judy reside in the upper-middle-class suburb of Barrington, Illinois. That's outside Chicago, but it sounds like over the rainbow. "My two daughters are getting a superior education in the public schools," he says. While most people have been forced to increase their workweeks to maintain their way of life, Schwartz has trimmed his by about ten hours to a maximum of 60.

Almost as many citizens will identify with the downward career trajectory of Terry Biddle, 41—a definite "no." Biddle graduated from high school in Elwood City, Pennsylvania, in 1969 and went to work for Babcock & Wilcox's steel tubing plant in nearby Beaver Falls. As a furnace tender, he earned $28,000 or so annually by the early 1980s, traded in his Pontiac every three years, and had health insurance for himself, his wife, Linda, and three children that covered everything from eyeglasses to brain surgery.

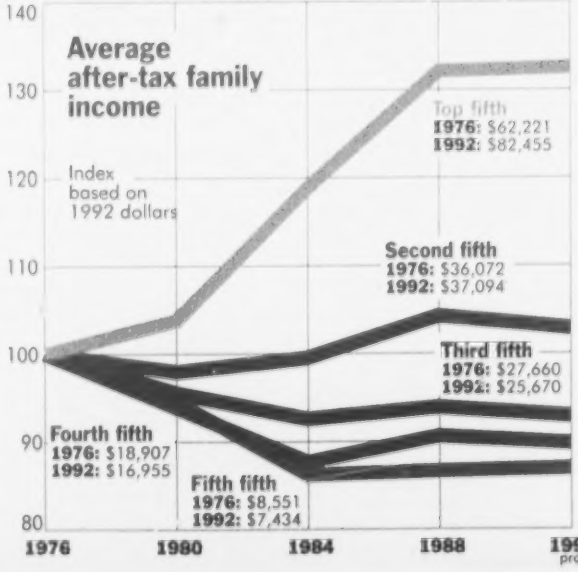
But in 1987 the factory closed, largely because demand for oil well pipe had sunk. Biddle delivered pizza at $3.50 an hour for a time, studied auto mechanics at the community college, and took a job in the local Ford dealer's repair shop. He now earns about $18,000 a year, which after inflation gives him about half the purchasing power he once had.

NOW MEET Ms. "Maybe"—Su Obman, 29. Obman earns more than $35,000 a year as a field engineer for Vocollect, a small maker of hand-held, voice-activated computers in East Pittsburgh. Though she is better off than ever, she's scared. Failure surrounds her. Not far from Vocollect's offices are abandoned red-brick factories where Westinghouse once made electrical equipment. Vocollect shares an office building with the state employment commission, where more and more job seekers appear daily. Says Obman: "Every day it seems I have to park farther back in the lot."

In their minds tens of millions of Americans drive with Obman every morning into a parking lot crowded with the jobless. The employed-but-jumpy reduce their spending. Three years ago Obman bought a three-bedroom ranch house for $65,000. "I wouldn't make that kind of investment now," she says. Nor does she intend to replace her 1986 Buick before it drops dead. She is relatively sure her job is secure for the next six months, so she is using all her extra cash to pay off the debt on the carpeting and furnishings she bought to decorate her house.

Even those who are flying high have the shakes. Some call the sensation "wing walking" after the air show stunt in which the acrobat edges along the lower wing of a bi-

THE RICH DEFINITELY GOT RICHER



FORTUNE CHART SOURCE: CONGRESSIONAL BUDGET OFFICE

REPORTER ASSOCIATE *Suwel Ratan*

plane in flight. The first rule of wing walking is that you don't let go of one strut before grabbing the next. In this economy, no matter how unhappy you are, you don't quit one job without the next firmly in hand.

Plenty of people hail this new caution as a welcome revival of old-fashioned common sense. "It's time to get away from charity balls and designer jeans," says Lowell Duncan, 47, of Fort Worth, marketing vice president for Tandy Corp. "Levi's work real well." Duncan is better off. His salary keeps growing at 6% or more a year, enough to keep him ahead of inflation, but asceticism is in the air. "It's what I read, what I hear," he says. A few years ago Duncan would have thought about sending his son, Blair, 24, to top-of-the-line Stanford for his MBA (tuition: $17,757 a year). Now he's encouraging Blair to look at the very good University of Texas (tuition: $1,080).

Even if a majority of Americans feel edgy now, are they really worse off than they were 12, or 16, or 20 years ago? First, consider the non-pocketbook factors, since well-being involves more than bank accounts. How do you value the end of four decades of Cold War? Though the economic gains from lower defense spending are still to come, this epochal change has already lowered the risk of Armageddon—a definite improvement. But few celebrate the victory as enthusiastically as it deserves. People are inclined to shrug it off, observes Treasury Secretary Nicholas Brady, "as if it were no more than winning the World Series."

Medical care and the environment offer pluses and minuses. No, we can't afford to keep spending an ever higher share of GDP on health care, but don't forget that, AIDS aside, mortality rates have declined for almost all diseases—and accidents as well. Former Senator Paul Tsongas of Massachusetts was stricken by lymphatic cancer in 1983. If that had happened a decade earlier he would most likely be dead now. Instead, he is running for President.

As for the environment, rivers are cleaner by and large. A third less oil was spilled in U.S. waters in the 1980s than in the 1970s, the *Exxon Valdez* accident notwithstanding. There is less carbon monoxide in the air, but more ozone. So Los Angeles, Denver, and some other cities choke on smog more often.

The quality of urban life in America has clearly gone downhill. Though Reagan and Bush both declared war on drugs, the enemy hasn't given up much ground and may have gained some. Says Terry Gould, a director of Action-Housing, a Pittsburgh social agency: "A decade ago we didn't find babies in apartments where all the furniture and food had been sold to buy cocaine. Now we do." Violent crime has jumped 12% since 1980, a statistic that will surprise no one. In the 1970s, unless you were directly involved in the drug trade or some other risky business, you were likely out of harm's way. In 1992 you can be shot walking a high school corridor or driving a freeway.

STILL, whatever the data show on these issues, the 1992 election campaign will likely focus on and be decided by paycheck issues. No one-size-fits-all set of numbers can describe how 250 million people have fared, of course. And these days the statistics are more mixed than usual. Get ready for speech writers and spin doctors for Bush and his Democratic opponent to chop the figures more ways than a Cuisinart.

Want to make the case that the Reagan and Bush years have been great? Here are your ingredients:

Even in recession 118 million people are employed, 97,000 fewer than when Bush took office but almost 17 million more than when Reagan started. Inflation is a trifling 4%. Since 1980 the income of the average American family, adjusted for inflation, has risen 11.4% to $33,722. That's $3,453 higher than when President Carter left office.

The prime interest rate is back to where it was in 1977—before inflation took off. As a share of family income, mortgage payments for a median-price house have dropped from 33% in 1980 to 20% currently, which means that more people can afford to buy houses—even without the new tax breaks Bush is touting. Individuals who invested $10,000 in Standard & Poor's basket of 500 stocks when Reagan took office in 1981 held shares worth $16,000, after inflation, at Bush's inauguration. Their value has since soared to $19,300 as of January 28, when the President made his latest State of the Union address.

Now the rebuttal:

Average income has risen mostly because it has been hoisted up by the huge gains of those on the top fifth of the pile. The wealthy profited handsomely from the tax cuts of the early Reagan years. Mergers and acquisitions that put lots of ordinary people out of work made investment bankers—and plenty of CEOs—rich. Generous and tax-deductible corporate medical plans have helped doctors thrive.

Among families in the next rung down the income tower—those making $46,000

YES **BETTY JEAN MURPHY, 50, a divorcée, had four children, a BA, and an obsession with success in 1980. Today her thriving company develops low-income housing in Baltimore.**

NO **TERRY ROBERTS, 51, of Fort Worth, lived high a dozen years ago—until the company he owned went bust. Out of work again, he still helps support his daughter and granddaughter.**

to $67,000—average after-tax incomes have inched up 0.5% a year since 1980. But that's mainly because Mrs. Rodriguez has gone to work three days a week as a bookkeeper to plump up the flattened wages of her husband, the utility company supervisor. Are such families happier now? Well, she hates leaving the kids with a babysitter, but the knowledge that Biloxi Boxes couldn't function without her is pleasing.

In families whose main breadwinner gets paid by the hour, two wages have become essential just to keep from falling further behind. Ann Sessums, 45, of Boyd, Texas, is looking for clerical jobs because her husband, a carpenter, can find enough work to fill only four days a week. Meanwhile, says Mrs. Sessums, "since 1980 the electric bill has gone from $50 a month to $225." Overall, weekly wages for private-sector workers who are not supervisors have fallen—in constant dollars—from $411 at the end of the Carter Administration to $369 at latest count.

Those at or near the bottom of the heap—the woman who vacuums the office at night for minimum wage plus a tad, say, or the person with no job at all—may be doing slightly better than their incomes alone indicate. Low- or no-income women with children get quite a lot of assistance in the form of food stamps, Medicaid, and rent support that doesn't show up in government reports, and a larger share of low-income Americans qualify for those programs these days. Even so, in many cities the payments have recently been rising more slowly than inflation. In New York City a mother with three children receives up to $577 a month, 15% less in real dollars than in 1988.

If all that complexity still leaves you hungering for a simple answer to this endlessly debated question, here's the best we can do. Have a majority of American families seen their incomes improve since 1980? Yes; otherwise the median family income, by definition, could not have risen, and it has. On the other hand, it hasn't risen much. From 1980 to 1990 median family income, before taxes but adjusted for inflation, increased at a compound annual rate of just 0.67%. That's not much better than the 0.54% rate of the 1970s. Nor is a return to the heady pace of the 1950s and 1960s, when median family income rose at a 3% compound annual rate, anywhere in sight.

WHAT'S ALSO CLEAR is that a distressing gap between the rich and the poor opened in the 1980s. But what's driving that division is not changes in tax policy, as some critics suggest, but differences in education. Simply put, the more schooling you have, the more you prospered in the Reagan-Bush years. That observation will bring bitter laughter from the MBA who just lost her middle-management job or the parents who are still feeding the recent law school graduate in whom they have invested $100,000-plus. Still, don't confuse a temporary recession with a long-term trend.

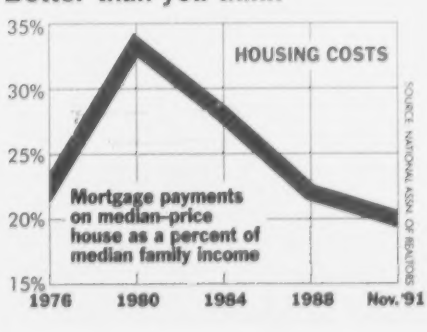
Over the past dozen years the returns to education have been impressive. Education clearly underpinned much of commodity expert Schwartz's success. On average a 30-year-old with a college degree now earns 10% more in real dollars than his counterpart in 1980, says University of Maryland economist Frank Levy.

Workers with degrees are mobile, or at least think they are. Tom Wittenschlaeger, 35, an Annapolis graduate, is a nuclear engineer and manager of corporate market

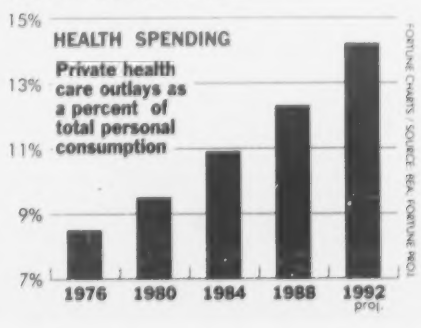
THREE MEASURES OF WELL-BEING—AND THREE DIFFERENT ANSWERS

Better than in '80 at least

Better than you think



Never been worse



research for Hughes Aircraft in Los Angeles. He is almost cocky. "If things turn sour at Hughes, I don't think I'd have a terribly difficult time finding another job," Wittenschlaeger says. "If you look at those who feel otherwise, you'll find people who came out of the education system with lower skills and a poorer work ethic."

Even the fall in value of his four-bedroom house in Orange County—from a high of $515,000 a couple of years ago to about $415,000—doesn't rattle Wittenschlaeger. Says he: "If it were to drop below what I'd have to pay for the same house in St. Louis, I'd be shocked. But I don't see that happening in my lifetime."

Female workers have enjoyed the same higher returns from higher education. In the 1980s the median income of all women in the workplace, including part-timers, rose $1,750 in constant dollars to over $13,250. The income of women with a college degree rose from $16,700 to $22,500. The median income of black women college graduates in 1990 was even higher, $26,700. (That's vs. $40,300 for all college-educated men.)

In 1980, Betty Jean Murphy of Baltimore was a divorced black woman with four young children, the profile of a ghetto casualty in the making. But she also had a BA from New York City's Hunter College and a real estate license. "I wanted desperately to make good," Murphy, now 50, recalls. "I read everything I could about housing development and made 10,000 phone calls and thought constantly."

She found her niche. Murphy buys Baltimore city property, such as an abandoned school she picked up for $75,000, and turns it into housing for low-income tenants, most of whom receive federal rent subsidies. (Nationwide some 4.6 million families get such help, compared with 3.1 million in 1980 and 4.2 million in 1988.)

Murphy drives a battered 1984 Volvo and still lives in a cluttered, four-bedroom house. She declines to reveal her income, but she has no trouble paying her bills and

YES **TOM WITTENSCHLAEGER, 35, a Hughes Aircraft executive, remains confident—though the value of his California home is down $100,000.**

GRIM TIMES IN THE GRANITE STATE MAY NOT HURT BUSH

Think you've got it bad? Check out New Hampshire. After riding sky-high in the 1980s, the state's economy is deader than a ten-point buck strapped to the hood of a pickup. According to DRI/McGraw-Hill, a Lexington, Massachusetts, economic forecasting firm, unemployment since 1988 has more than tripled, from 2% to 7%, and personal income has dropped 6.1%, vs. a minuscule rise nationally. Says Russell Thibeault, president of Applied Economic Research: "It used to be that the fast-food restaurants couldn't find people to work in them. Now they can't find people to eat in them."

In this predominantly Republican state, the only folks buying much of anything are the press, who flock here quadrennially to cover New Hampshire's presidential primary, the nation's first. A real estate crash—the worst since the Depression—has driven five of the state's seven largest banks out of existence. Zapped by the peace dividend, big defense contractors, like Lockheed-Sanders, are shedding workers. The rise of powerful desktop computers has minicomputer makers like Digital Equipment, the state's largest employer, in a tailspin.

With all the glum news, you'd think New Hampshirites, who elected George Bush in 1988 by a wider margin than any other state east of the Mississippi, would be ready for a change. Don't bet on it. Neither Pat Buchanan's challenge nor the Democratic contenders appear to have sparked much enthusiasm.

Robert Giese, an unemployed engineer who was laid off by Lockheed over two years ago, explains why he and people like him still back Bush: "I blame our ills on Congress. Everything Bush has tried, Congress has stonewalled." Karl Norwood, a real estate developer battered by the recession, thinks the President has the best shot at pushing through a capital gains cut and other tax incentives that could help revive the state's economy.

Just because most New Hampshire Republicans don't blame Bush doesn't mean they're doing backflips over his candidacy. Says Dana Lewis, who sells uniforms to the police and fire departments and whose business has shrunk 25% over the past few years: "I'm voting for Bush only for lack of a better candidate." Sorry, Pat.

Local Democrats are just as lukewarm about their crowd. Marcia Landsman, a director of a day care center in Nashua, New Hampshire, complains that none of the party's candidates care enough about issues like abortion and health insurance. By default, Landsman says she'll probably vote for Bill Clinton or Tom Harkin. At a dinner with some New Hampshire Democrats, the mood was even more somber. Said one: "I'm writing in New York Governor Mario Cuomo." Another disagreed: "I'm writing in Ralph Nader."

The most profound and perhaps the most popular political belief among citizens of the Granite State is the philosophical view that government isn't likely to solve their problems. Instead they look to emerging industries like biotechnology and telecommunications to lift the state out of its slump. It will take time, though, before such industries grow big enough to replace the lost jobs. In January fast-growing Cabletron, a Rochester, New Hampshire, maker of computer network equipment, announced openings for 36 engineering jobs. Next day, 1,600 applicants lined up in the snow, searching for a little warmth. **– Brian Dumaine**

has made other lives better along with her own. "My buildings are super-clean, which has an impact on those around them," says Murphy. "A guy across the street told me the other day he was getting rid of junk to make his place look better."

Who has lost ground over the past dozen years? The dismal corollary to education equals prosperity is this: The less schooling you have, the farther you are likely to have fallen. Levy calculates that the incomes of those with only a high school education, Terry Biddle and his friends, have dropped 16% since 1980.

In the 1950s and 1960s blue-collar workers were closing the pay gap that separated them from those with pricey diplomas. Well into the 1970s, manufacturing jobs were so plentiful that a lathe operator who was let go in the morning could pack his calipers and be hired somewhere else in the afternoon.

"We let the troubles of GM and IBM flavor our feelings. Our future is entrepreneurs."

But in the 1980s the gap widened to a chasm, opened up by the crowbar of global competition. Computers and telecommunications have multiplied the value of Donald Schwartz and his colleagues by making it easy to gather and sell information anywhere. At the same time low-wage toilers from Mexico to India have underbid the labor of workers like Biddle, who have no special skills to peddle. (For more on where the good jobs will and won't be, see the following story.)

According to Marvin Kosters, an economist at the American Enterprise Institute, an American college graduate with ten years in the workplace made 30% more than a high school graduate with similar experience in 1980. By the end of the decade that spread had grown to 60%. "This country isn't going anywhere with people like us making these wages," says Biddle. "We can't afford to buy new cars. About 70% of what we sell at the dealership is used." To supplement their income, Linda works a few hours a week at Burger King.

How will individual experiences translate into votes on Election Day? "Anybody but Bush," snaps Linda Biddle, predictably. Nor is it surprising that Terry Roberts of Fort Worth may break with long habit and vote for a Democrat. In 1980 Roberts owned a very profitable executive search firm that scouted talent for oil field equipment companies. When energy prices crashed the following year, Roberts's business collapsed.

He soldiered on in less rewarding jobs. Last month, with the Fort Worth economy sagging, Roberts lost his $36,000-a-year position managing promotional events for Miller beer. At 51 he is nervously groping for the next strut on the wing. "I'm a Republican, but the party isn't helping those that put them in office," he says. "It could be that we need some New Deal programs."

Still, many who have struggled through the decade—or are just worried now—aren't necessarily going to punish George Bush for their troubles. A lot of them are inclined to spread the blame around—on the Democratic Congress, on themselves (for dropping out of school), and on inept business leaders. The stumbling of the mighty—such blue-blooded titans as Citibank, General Motors, IBM, and Macy's—has convinced many Americans that huge corporations are not too big to fail but too big to succeed.

"We let the troubles of companies like GM and IBM flavor our feelings about everything," says Pittsburgh architect John E. Kosar, who is buoyant even though the lack of office construction in the past several years has shrunk his firm from 300 employees to 250. "There are tremendous opportunities in this country. Our future is entrepreneurs."

MAKE THAT well-educated entrepreneurs, and you've identified the key to ensuring that more Americans will be able to answer yes to the real question facing the country—will you be better off in 1996, in 2000, and beyond? The message is getting through. "When my brother graduated from college 11 years ago, it was mostly partying," says Brian Bair. Bair is student body president at Washington and Jefferson College, a small liberal arts school outside Pittsburgh where the unemployment rate among last year's graduating class is 12%, up from 5% or less a few years ago.

"Do I envy my brother?" he asks. "No. I like the world the way it is now. It presses us more, but that's not bad." Brian's right. If millions of Americans study and train to be a little better off—and if political and business leaders forge policies that encourage them to do so—the country will get richer too. ■

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AMERICA'S TOUGH NEW JOB MARKET

Look for plenty of opportunity but less security. More people will work in small companies and at home. Those who get the good jobs will be skilled—and adaptable. ■ *by Louis S. Richman*

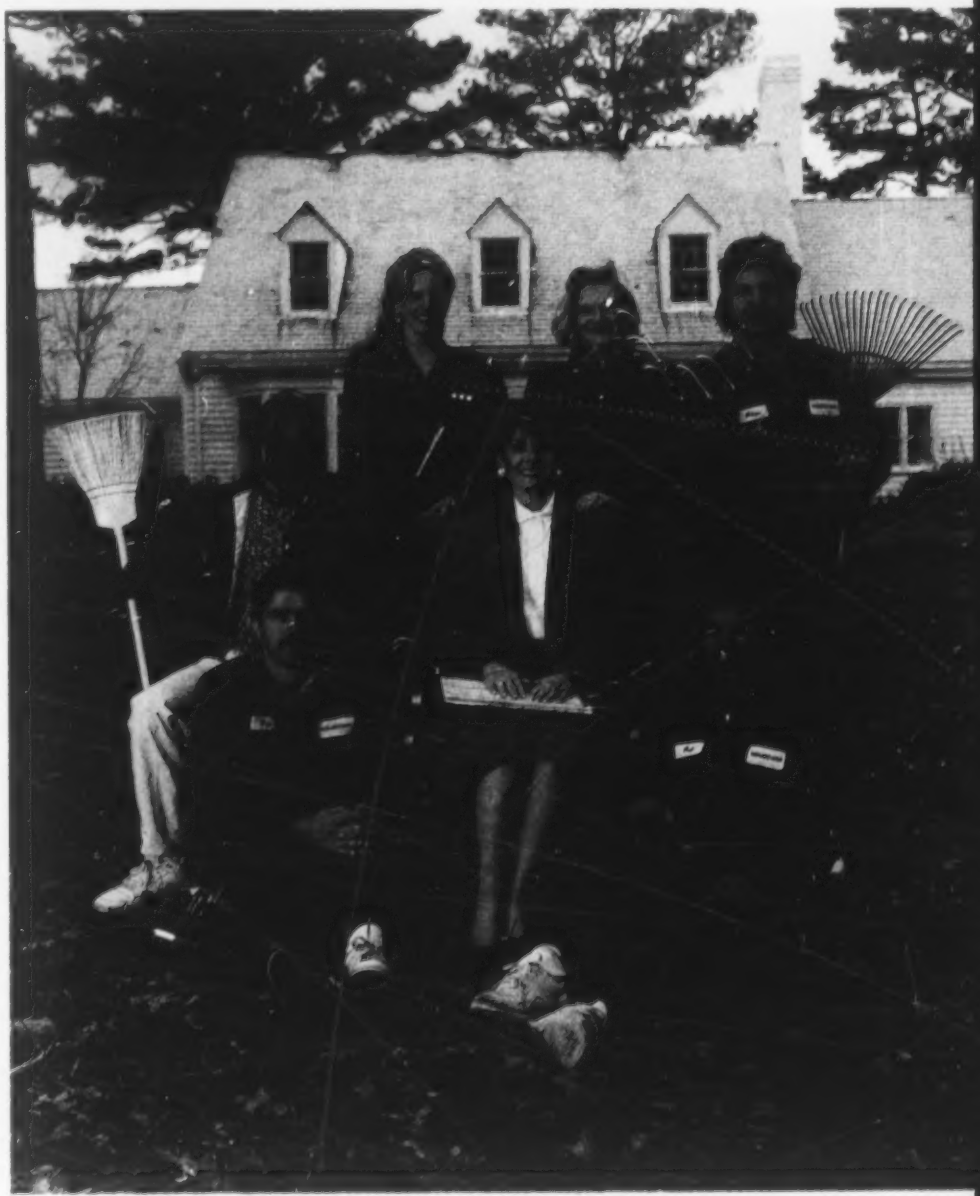
THE GREAT American Job Machine, which put 18 million more people to work between 1982 and 1990, is stuck in the mud. Employment losses in the recession have been modest compared with those during the far deeper slump of the early 1980s. But people sense that prospects for finding secure, good-paying new jobs will be different afterward, and they are right. "What we are witnessing is not just the playing out of an economic cycle but a sea change," says William J. Morin, chairman of Drake Beam Morin, the nation's largest employee outplacement firm.

The recession has accelerated and broadened the corporate restructuring that began in the mid-1980s. An estimated 1.6 million jobs have been lost to date—a record proportion of them managerial and white collar. Dan Lacey, who tracks staff reductions as the head of the Workplace Trends consulting firm, calculates that 680,000 of those were the result of downsizing. He predicts the pace will quicken through 1992 and will continue long after the economy begins to recover.

Companies are not just laying off—they are flattening their organizations and shrinking payrolls to a core of highly productive primary employees. The trend will be especially pronounced among service companies, which face the same drive for higher productivity that reshaped much of manufacturing in the 1980s.

These days, only health care and business services are adding to the total supply of jobs. Many of the two million new civilian and military jobs created by the Reagan defense buildup are fast disappearing. Troop strength will be cut by 638,000, including reservists, and civilian Defense Department employees by 180,000. Cutbacks to suppliers could cost another 652,000 manufacturing and service jobs through 1994,

REPORTER ASSOCIATE *John Labate*



MICHAEL SCHWARZ

These people in Atlanta are among 500 leased workers at Home Corp., a property management firm.

according to the Manufacturers' Alliance for Productivity and Innovation, a Washington research group.

In this tough new marketplace, more and more of the employed will face permanent uncertainty about their security. The unemployed will find fewer new jobs similar to the ones they have lost. And relocating will be hard for the growing number of aging baby-boomers who are settled into homes, neighborhoods, and school districts.

Many people will go to work for smaller companies, including contractors providing specialized services to other companies. Some will be consigned to the "contingent work force," where job security and a steady paycheck will be problematic. More Americans will opt for—or be pushed into—self-employment. The watchwords for all workers: Get as much education as you can, hone your skills, and polish your résumé.

ANDY FREEBERG

Cisco Systems, which makes computer networks, employs as many engineers as production workers.

STILL, the economy of the 1990s *will* create plenty of work (see charts). The flywheels that propel America's job machine remain in good working order—an open labor market with few European-style legal barriers that block the free movement of workers, and a culture that rewards risk taking and entrepreneurship. All that is missing is the lubricant of economic growth. But the Bureau of Labor Statistics (BLS) estimates that if GNP expands by a modest 2.3% annually, the U.S. in the next 13 years will create some 25 million new jobs, raising the number of the employed to 147 million. Many skilled workers will be in short supply, including engineers, computer scientists, and physical therapists.

The employment mix the BLS projects will mirror the trends of the past 15 years. Most categories of factory jobs will continue to decline. Manufacturing will require some 600,000 fewer workers to maintain its current 34% share of total GNP. Still, replacement hiring will fill some 4.8 million skilled production positions. Even slow-growth occupations, such as machining and material handling, will offer abundant opportunities.

More and more of tomorrow's jobs will require people who are not only skilled but also adaptable and able to keep learning. One prototype is the high-performance work force program now in place at eight General Mills plants. The Minneapolis food giant is rebuilding its production systems around self-managing teams. Each factory worker is expected to master every stage of the manufacturing process and to be able to trouble-shoot equipment breakdowns or bottlenecks. Team members set their own production schedules and help select a leader from their ranks. Those leaders, along with a plant supervisor, are all the management a plant generally needs. General Mills' factories used to have five layers of managers. The company estimates that the team approach increases productivity by as much as 40%.

Technical aptitude is just the starting point for job candidates. The company puts them through a battery of focused interviews to find the few self-motivated team players able to grow with the job. When General Mills last year staffed a new cereal factory in Covington, Georgia, it screened 4,000 applicants to get the 100 it wanted. In the past the ratio of applicants to hires typically ran 5 to 1.

YOUNG COMPANIES are starting out lean and staying that way. Seven-year-old Cisco Systems of Menlo Park, California, shows just how few hands—and what kind—the factory of tomorrow will need. The number of manufacturing workers at the fast-growing maker of computer network systems has multiplied tenfold over the past three years but still constitutes less than a quarter of Cisco's payroll of 619, which is top-heavy with engineers and computer scientists. Says CEO John P. Morgridge: "We're extremely cautious about expanding personnel because it's so demoralizing to correct when you overhire."

Cisco keeps its head count low by subcontracting nearly all subassemblies, mostly to the U.S. factories of other Silicon Valley manufacturers. It relies on strategic partnerships with three electronics distributors that serve as its purchasing department and control most of its inventory. The few production hands are seamlessly interwoven into every vital function. Some 15% work full-time with new-product design engineers to smooth the transition from the time a product is conceived to initial production, a practice known as concurrent engineering. Says David Ring, vice president of manufacturing: "Everyone here is a problem solver. Our job is not simply to put products together and get them out the door but to figure out how to do it better."

Most production workers are graduates of vocational schools. "We want people who have an uncommon pride in their work and a sense of adventure," says Ring. That spirit gets rewarded well. Experienced new hires often start at $30,000 a year, all employees receive stock options, and Cisco matches employee pension plan contributions. Productivity of the Cisco kids is off the charts. Sales per worker have grown at a 30% rate compounded annually since

1988, to $484,000 now—better than twice the average of its competitors.

The same drive for productivity and quality will shape service sector employment. As in the 1980s, services will continue to account for all net new jobs, according to the BLS. But companies that staffed up in the past with armies of low-level workers will replace them with fewer skilled and well-educated employees.

TAKE THE mail-order division of Diagnostek, a nine-year-old health care company in Albuquerque. The staff of 60 pharmacists and 250 pharmacy technicians dispatch medications for insurance companies, corporate retiree health programs, and labor unions to about 8,000 consumers daily. Diagnostek's pharmacists, earning some $43,000 annually, concentrate exclusively on prescribing drugs, mostly low-cost generics, which the company buys in bulk from manufacturers. That's a far more efficient use of these professionals' skills than in the corner drugstore, where they often have to worry about keeping shelves stocked with everything from arch supports to witch hazel. Increasing the productivity of pharmacists is an urgent matter: The SRI International consulting firm estimates that the current shortage of some 17,000 trained pharmacists will double in the next 15 years.

The technicians are typically high school graduates, who earn $12,000 to $24,000 depending upon skills and responsibility. They bottle and label the shipments. Diagnostek and a few similarly streamlined competitors dispense some 10% of all maintenance prescriptions nationally, a market share that is projected to nearly double by 1995 (see Managing).

Small companies generated at least half of American jobs in the 1980s and will play an ever bigger role in the 1990s. "The baby-boom generation is entering its peak entrepreneurial years," says David L. Birch, president of Cognetics Inc., an economics research firm in Cambridge, Massachusetts. "There hasn't been a decade in living memory when the population of potential entrepreneurs has been bigger."

Most of the jobs will be in the service sector, from consulting to carpet cleaning. But don't underestimate the potential for manufacturing. Birch estimates that small businesses' share of total manufacturing employment rose from 22% to 36% over the past decade. He looks for them to keep raising their share in the 1990s, though like big companies they will do anything they can to avoid adding excess employees. "A decade ago people were cheap and technology was expensive," says Birch. "For the skilled workers businesses need today, the reverse is true."

COMPANIES large and small will be practicing what Joseph Gibbons, a senior consultant for Towers Perrin, calls "just-in-time hiring." Outside contractors will supply them with everyone from order processors to the extra hands needed during peak periods. Example: Like many major systems subcontractors, the aerospace group of Parker Hannifin Corp. in Irvine, California, faces periods of flat-out production alternating with idle spells. Over the past two years it has tried to stabilize its core Irvine work force at about 3,000 under a "quality hire" program to lift the qualifications of all its workers.

The swing workers now come from Olsten Group, a Long Island–based temp outfit. An Olsten manager who works full-time at the Irvine plant coordinates the placement of temps—from secretaries working for a day to systems engineers on assignments lasting several months. The close oversight ensures that the right workers are assigned to the right jobs from the start. Because they are recruited from a single supplier who understands the qualifications Parker Hannifin wants, they are better able to learn their jobs and fit into the company's culture. And Olsten tries to hold on to its seasoned people by finding them work elsewhere during the downtime.

Smaller companies are moving to "staff leasing," in which an outside specialist essentially becomes a contract human resources department. Some one million workers are employed by such contractors, and the number is rising fast.

Here's how staff leasing works. Home Corp. is a fast-growing Montgomery, Alabama, owner and manager of upscale

OCCUPATIONS THAT WILL GROW FASTEST...

Occupation	Employment, in thousands		Change
	1990	2005	
Home health aides	287	550	92%
Paralegals	90	167	85%
Systems analysts and computer scientists	463	829	79%
Personal and home care aides	103	183	77%
Physical therapists	88	155	76%
Medical assistants	165	287	74%
Operations research analysts	57	100	73%
Human services workers	145	249	71%
Radiologic technologists and technicians	149	252	70%
Medical secretaries	232	390	68%

...AND THOSE THAT WILL GROW THE MOST

Occupation	Employment, in thousands	
	1990	2005
Retail salespersons	3,619	4,506
Registered nurses	1,727	2,494
Cashiers	2,633	3,318
Office clerks	2,737	3,407
Truck drivers	2,362	2,979
General managers and top executives	3,086	3,684
Janitors, cleaners, and housekeepers	3,007	3,562
Nursing aides, orderlies, and attendants	1,274	1,826
Food-counter, fountain, and related workers	1,607	2,158
Waiters and waitresses	1,747	2,196

SOURCE: BUREAU OF LABOR STATISTICS

Diagnostek's pharmacists do one thing very well: compounding medicines for mail-order customers.

apartment complexes in ten states. With each property requiring an average of ten workers in an industry where employee turnover is high, Home Corp. faced huge staff management problems. Instead of adding as many as five full-time personnel managers to its 11-employee headquarters staff to handle the ballooning head count, Home executive vice president Michael Goldner contracted Action Staffing, a staff-leasing outfit in Tampa, to do the job for him. Today all 500 of the workers who man the properties are Action Staffing employees, from minimum-wage groundskeepers to $32,000-a-year resident managers.

Home Corp. pays all wages and benefits to Action Staffing, which distributes them. For its administrative fee, which runs about 5% of total payroll, Action also handles all quarterly tax, unemployment insurance, and workers' compensation payments. That responsibility, which Goldner describes as a "monumental headache," is easy for Action Staffing. Operating in 35 states, it is familiar with the bureaucracies of each.

Action Staffing can achieve big economies of scale. It provides some 11,200 leased workers to 600 companies, giving it powerful leverage to negotiate favorable group health insurance rates. Home Corp.'s premiums would otherwise run far higher than the $120 monthly rate per worker it pays. Action also has a preferred workers' compensation rating that lowers costs. And at its headquarters, human resources professionals and labor law specialists can advise clients on the intricacies of equal opportunity employment practices and workers' comp claims. In addition to a fully employer-paid health care and disability package, Action offers a 401(k) pension plan.

Perhaps the most profound change lying ahead will be a shift to self-employment. Link Resources, a New York market research firm that tracks the work-at-home business, calculates that the self-employed now total some 22 million—about 18% of the labor force—and grew at an average annual 12.7% since 1989.

The numbers, which include part-timers or moonlighters with a home business to supplement income, are bound to expand significantly as companies outsource jobs. Of course, many people prefer working for themselves. Two-earner families with a stable primary income to fall back on often welcome the opportunity to spend more time with their day-care-warehoused kids. Lacey of Workplace Trends describes the more casual attachment of the self-employed who will work for several clients on a project-by-project basis as the "Californiazation" of work. The self-employed network their way to opportunity through endless informal contacts.

Low-cost high tech is giving self-employment a big lift. Powerful personal computers, data networks, high-speed laser printers, desktop copiers, and inexpensive fax machines now cost little more than a television. A self-employed executive can outfit a home office for less than $5,000.

But when she does, what will she do—and how much can she earn? Debora Kane, 41, didn't have a clue in 1988 when the investment banking slump eliminated her $50,000-a-year job as a computer systems specialist for Goldman Sachs in New York. Further complicating matters, she and husband Lloyd, a vice president at Citicorp, had just bought their first home and were new parents of 4-month old daughter Susannah. *continued*

JOBS FOR MANAGERS AND PROFESSIONALS

Occupation	Rate of increase, 1990–2005	Median weekly earnings (1990)*
Mathematical and computer scientists	73%	$734
Registered nurses and other health therapists	43%	$600
Lawyers and judges	34%	$1,052
Primary, secondary, and special education teachers	30%	$522
Health diagnosticians	29%	$824
Executives, administrators, and managers	27%	$604
Engineers	26%	$809
Natural scientists	26%	$661
Technical specialists	23%	$509
College and university teachers	19%	$747

*Excludes self-employed

SOURCE: BUREAU OF LABOR STATISTICS

Entrepreneur Debora Kane and offspring: Susannah, 3, and PC Basics, 2½.

As her search for a new job floundered, Kane fell back on her skills; she began teaching computer neophytes how to use applications programs, finding freelance work through friends and former colleagues. Soon she conceived the idea of building her own business. Both to get steady income and to learn the ropes, she worked part-time for small companies that specialized in computer training programs for corporations. Expropriating the spare bedroom as her personal corporate headquarters, she formed PC Basics in July 1989.

With a marketing plan based on the approach of her part-time employers, Kane first targeted banks and financial services companies, but the field was too crowded with competitors. So she went after small businesses, hospitals, and nonprofit organizations through advertisements in a local business newspaper. With repeat business and referrals to new clients, her business is beginning to snowball. By next year she expects to be grossing about what she earned at Goldman Sachs, and she is considering hiring an assistant. Says she: "Having more business than I can handle alone is becoming a problem."

IS THERE a role for public policy in the forthcoming restructuring of the American workplace? You bet. The list starts with removing obstacles to the new and small enterprises that will be so crucial to job formation. Runaway health care inflation, soaring workers' compensation costs, and endless new government regulations threaten small businesses.

So do local impediments, some of them ludicrous. Most zoning laws restrict commercial activity that draws traffic to residential neighborhoods. But Los Angeles bans all home-based business, and under pressure from companies with which home enterprises compete, the city council last year quietly buried a proposal to amend the ordinance. An ancient artifact in Chicago's zoning regulations prohibits the use of typewriters (or computers) for commercial purposes in the home. "These cities are shooting themselves in the foot," says Paul Edwards, who with wife Sarah runs the Working From Home Forum from their townhouse in Santa Monica, California, providing information and networking for the self-employed. "They are forcing home-based workers, who would otherwise pay taxes, to operate illegally or leave."

The biggest deterrent is access to affordable health care. People who are not covered through group policies provided by the employer of a working spouse can face premiums of more than $1,000 a month—or do without. Says Edwards: "Many of the self-employed spend nearly as much of their time shopping for health insurance they can afford as they do running their businesses." Qualifying the self-employed as members of broad risk groups would help to reduce policy costs, but a true solution awaits comprehensive health care reform.

No matter where they work, Americans will need higher skills than ever before. Economist John H. Bishop of Cornell University estimates that the growth of high-skill occupations will leave the U.S. short some 2.2 million college graduates by 2000. Unless immigrants fill the gap, the country will have to find more ways to make college affordable.

Better secondary education is no less critical. The most conspicuous gear missing from the 1990s-model Job Machine is the one that used to provide good work for the unskilled. These people, their living standards battered in the 1980s, can expect even worse times ahead. The BLS projects that many occupations where poorly educated workers have found jobs will contract sharply. For example, demand for private household workers—half of whom lack a high school diploma—is forecast to shrink by 2005. Other declining low-skill jobs include garment work, meatcutting, and pumping gas. Occupations the bureau expects to grow pay too little to support a family. The Labor Department forecasts that the food service industry will add 30% more jobs—short-order cooks, dishwashers, and the like—yet employees' median weekly pay was a meager $220 in 1990. Arnold Packer, who heads the Labor Department's education and skills commission, calculates that the percentage of black men with a high school diploma able to support a family of four by holding such jobs has fallen from 80% in 1969 to 59% today.

REMEDIES will be hard to find. Education reform is essential, but not enough by itself. Most of today's high school students, the victims of past educational malpractice, are already in the work force. Their main hope now lies in more training—a task business can handle with a bit of help. One promising approach: John Bishop suggests that Congress pass a training tax credit akin to credits for boosting investment in plant and equipment. Companies could deduct some portion of expenditures beyond a minimum threshold from their corporate taxes. The higher productivity and wages of the better-educated workers, he thinks, would make up most of the revenue loss to the Treasury and reduce the need for expensive government-paid retraining programs to ease the transition of displaced workers to new jobs.

Unless attention is paid to lifting the skills of all workers, America's biggest worry as it emerges from the recession will not be job growth but a worsening economic polarization. In the 1990s the Great American Job Machine—and the society as a whole—will purr only if it is powered by the higher-octane fuel of a trained and flexible work force.

GM'S CHIEFS SPEAK OUT • SPECIAL 1992 INVESTOR'S GUIDE

MARCH 9, 1992

FORTUNE

AMERICA VS. THE WORLD

How U.S. Industry Really Stacks Up

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MARCH 9, 1992 VOL. 125, NO. 5

FORTUNE

ABOVE: Some 40% of the milk carton stock produced at this Potlatch paper mill in Idaho is exported. Photo by Robbie McClaran.

COVER: America's industrial competitiveness hinges on how well it invests and innovates. Photo by Phil Schofield (AllStock).

"The tax system favors real estate, agriculture, and consumption in general, not manufacturing."

PAGE 30

COMPETITION/COVER STORY

HOW AMERICAN INDUSTRY STACKS UP 30

The hard, cold reality: Though quality and exports are rising overall, and the rapid decline of once great, made-in-the-U.S.A. industries like steel and autos may have slowed, American companies continue to lose ground in many of the markets that promise the fastest growth and the biggest profits of the coming decade. FORTUNE reports from the trenches on 13 industries—who's ahead and who's most likely to fall behind. *by Andrew Kupfer*

AUTOS

GM's LEADERS GO ON THE RECORD 50

In a historic interview with FORTUNE, Robert Stempel and the six other highest executives of General Motors explain why, after two years of record losses, a turnaround is under way at the world's largest automaker.

CORPORATE PERFORMANCE

COMPANIES TO WATCH 63

Vans sells U.S.-made shoes that appeal to the back-to-basics consumers of today. Also: SpecTran and Moleculon. *by Shelley Neumeier*

JAPAN

WHY JAPAN MUST CHANGE 66

Its companies face intense resentment abroad, Sony Chairman Morita argues, so they must mute their stridently competitive ways by seeking profits ahead of market share, boosting dividends, and treating employees more humanely.

INNOVATION

PRODUCTS TO WATCH 69

A phone that allows you to shop, pay bills, and order groceries from home, a screen that ensures computer privacy, yogurt with sprinkles for your kids (or you), and more. *by Alison Sprout*

ASIA

WHERE CAPITALISM THRIVES IN CHINA 71

The boom in the Pearl River Delta shows what the country could be like if the old men in Beijing got out of the way. Meet the world's fastest-growing economy. *by Ford S. Worthy*

"Our plan is based on being profitable at whatever share of the market we get."

PAGE 50

"It is essential that Japanese companies compete according to the same rules as the rest of the world."

PAGE 66

"Not every woman can nurse a baby, bake a cake, and then go out and kill. But some can."

PAGE 80

"I live by a Warren Buffett maxim: 'Buy stocks like you buy your groceries, not like you buy your perfume.' "

PAGE 144

"Our ancestors had an abundance of leisure. When capitalism raised incomes, it also took away time."

PAGE 155

"You can't save your way out of trouble; you've got to sell your way out."

PAGE 157

TECHNOLOGY

TECHNOLOGY TO WATCH 79
Moving toward the paperless office with new software. *by David Kirkpatrick*

SPORT

A BANG THAT'S WORTH TEN BILLION BUCKS 80
Hunting? There's no sport more incorrect, politically. Yet 17 million typical Americans still love to spend their money on it. *by Alan Farnham*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12
Don't give up on the recovery, Bush plays doctor, truffle madness, the new health clubs, and more.

DEPARTMENTS

FORTUNE FORECAST 21
Productivity looks promising. *by Joseph Spiers*

Also: Is inventory really under control?

LETTERS TO FORTUNE 25

FORTUNE PEOPLE 152
The soap opera at Neutrogena, the glory and the pity of a Baldrige, and more. *by Laurie Kretchmar*

BOOKS & IDEAS 155
A new book claims we're slaving away like never before—and ought to slow down. *by Gil Schwartz*

OFFICE HOURS 157
Hard times are sending some bosses back to the Stone Age. Beware yo-yo empowerment and cost-cutting mania. *by Walter Kiechel III*

KEEPING UP *by Daniel Seligman* 163

SPECIAL REPORT/WHERE TO INVEST NOW

HOW TO REACH YOUR FINANCIAL GOALS 111

A WINNING COURSE FOR STOCKS IN '92 112
Top buys as the economy picks up: strong cyclical and growth businesses. *by Andrew E. Serwer*

BEST BETS IN THE BOND BARRENS 119
Avoid long-term issues, and look for foreign bonds and municipals. *by Joshua Mendes*

TAX TIPS FOR A TRICKY YEAR 122
Here's how to negotiate Washington's changes —and come out ahead. *by Suneel Ratan*

WHAT THE NEW TAX SOFTWARE HAS TO OFFER 124

SMART INVESTING IS TAX-WISE TOO 127
What to do now to cut your bill? Hold growth stocks and avoid dividends. *by Terence P. Paré*

THE TOP MUTUAL FUNDS 138
The stars in 13 categories. *by Karen Nickel*

MEET INVESTING'S NEWEST STARS 144
These ten young money managers are among the best of their generation: Look at what they're buying now. *by Susan E. Kuhn*

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EDITOR'S DESK

JOHN ABBOTT

GM's Chairman Robert Stempel (center) with editors Taylor, Morrison, Loeb, and Johnson

THE FIRST-PERSON interview can be a particularly revealing form of journalism—witness FORTUNE's recent exclusive interviews with Wal-Mart's Sam Walton, IBM's John Akers, GE's Jack Welch, Microsoft's Bill Gates, and Next Inc.'s Steve Jobs, among many others. In this issue we present you with a grand slam: a rare, probing interview with the seven men who sit atop the world's largest industrial enterprise.

Since he became chairman and CEO of General Motors 19 months ago, Robert Stempel has maintained a relatively low profile; he's been too busy running and reorganizing the company to talk much with the press. But when he finally agreed to an extended interview with FORTUNE's editors, he insisted on including all six of his top executives, among them President Lloyd Reuss and vice chairmen Robert Schultz and Jack Smith, and set a time limit of two hours. The result of that session, beginning on page 50, is a revealing look at the automaker's turnaround plans.

On hand with me for the interview in GM's historic Detroit headquarters were assistant managing editor Ann Morrison, senior editor Keith Johnson, and FORTUNE's ranking auto specialist, Alex Taylor III, a member of our board of editors. Taylor, who has closely followed the industry since he was a business reporter for the Detroit *Free Press* in the late 1970s, was impressed by the candid, wide-ranging meeting: "Seeing and hearing all seven of the top executives together gave me a new insight into how this company is facing up to its economic and competitive challenges."

Stempel is clearly a close FORTUNE reader, though not always an uncritical one; he admitted filling the margins of Taylor's most recent cover story about the company, "Can GM Remodel Itself?" (January 13), with scribbled rebuttals. As Stempel said, "Why do I do that? Because my phone starts ringing off the hook with people saying, 'FORTUNE says! FORTUNE says!' And I have to be prepared to answer those questions."

Alex Taylor's provocative journalism has received recognition from other quarters as well. Citing the many distinguished stories he has written for our magazine over the past three years, the Washington (D.C.) Automotive Press Association in January named him Journalist of the Year.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October, by The Time Inc. Magazine Company. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Joseph A. Ripp, Treasurer; Harry M. Johnston, Secretary. Subscriptions: U.S., possessions: one year (27 issues) $52.95; Canada: one year (27 issues) $53.73. Second-class postage paid at New York, NY, and at additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer inquiries: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000.
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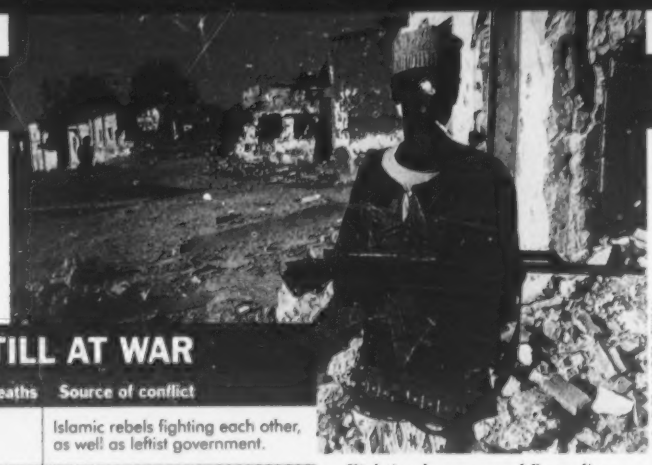


Fighting has ravaged Somalia.

A WORLD STILL AT WAR

Country	Number of 1991 deaths	Source of conflict
Afghanistan	2,000	Islamic rebels fighting each other, as well as leftist government.
Burma (Myanmar)	5,000	Ethnic minorities battling military dictatorship along borders. Nobel winner still imprisoned.
India	6,500	Sikhs in Punjab and Muslims in Kashmir want independence from government.
Mozambique	2,000	Rightist rebels continue to battle formerly Marxist government in 17-year war.
Somalia	20,000[1]	Rival clans battling for power kill many civilians as well as each other in fierce fight for capital.
Sri Lanka	11,000[2]	Hindu Tamil Tigers fighting guerrilla war against army of Buddhist Sinhalese majority.
Sudan	2,000	Islamic fundamentalist military government fights black rebels in southern Sudan.
Yugoslavia	6,000	Croats and Serbs still battle over Croation independence, despite U.N.-sponsored cease-fire.

[1] Casualties since November 1991. [2] From June 1990 to December 1991.

COLD WAR OVER, OTHER WARS NOT

■ With the Pentagon closing down military outposts and canceling weapons systems, you would think that peace was at hand. You'd be wrong. Armed conflict—much of it civil war in underdeveloped nations—continues to exact a toll in human suffering and economic destruction (see table for some examples). War has plagued Somalia since 1988, while the fighting in Sri Lanka is in its 15th year. Peter Wallensteen, a professor of peace and conflict research at Uppsala University in Sweden, predicts there will be an increase in ethnic conflicts in the post–Cold War era.

But defense contractors like **General Dynamics** or **McDonnell Douglas** aren't likely to be selling to the regional combatants to recoup lost Pentagon profits. James Blackwell, director of political-military studies at the Center for Strategic International Studies in Washington, D.C., says that scarce resources and restrictions on arms exports make doing business with many of these countries either unprofitable or illegal. But U.S. defense companies will try to sell more to the Middle East. Saudi Arabia, for example, may spend more than $15 billion to modernize its army and air defenses.

What should the role of developed countries be? Wallensteen says they must strengthen international organizations like the United Nations to help resolve the world's remaining wars. **– A.J.M.**

HOW JAPAN HELPS U.S. EXPORTERS

■ Love to hate Japan? You won't get much sympathy from Donald Springer, chairman of the New York Fur Leather and Outerwear Exposition. Thanks to a three-day show set up in Tokyo last year with the help of a little-known Japanese government agency, he and 29 other New York fur manufacturers met over 1,000 buyers and sold $8 million in furs. Says Springer: "Business has been tough, and it helped keep us alive another year."

The furriers' way into Japan was paved by Jetro, short for Japan External Trade Organization. Created in 1958 to encourage Japanese exports abroad, Jetro now concentrates on promoting imports into Japan. Overall, the Japanese have budgeted nearly $1 billion to help finance imports from the U.S., according to American officials. Still, that's only one-fortieth of Japan's trade surplus with the U.S., which is straining transpacific relations.

To find goods Japanese companies want to buy, Jetro trade experts have visited 17 U.S. states since September 1990. In Tennessee they found Dorothy "Dot" Smith, president of **Pepper Patch**, a small specialty food company that makes Tipsy Cakes, a pecan concoction laced with Jack Daniel's whiskey, a Japanese favorite.

Jetro's biggest single deal: a $4 million sale of full-line vending machines produced by **Crane Co.**, the U.S. leader. Crane's machines cost 40% less than similar Japanese models, and Jetro helped it meet Japan's complicated regulatory requirements. **– Ann Reilly Dowd**

U.S. business is slow, but Donald Springer can still sell fur coats in Japan.

JOHN ABBOTT

TERMITE TIME

■ Termites are back. They emerge from their nests in late winter and early spring, when thaws encourage them to swarm. Thousands of creatures that look like ants with wings can fly through a house for several hours seeking new places to colonize. Left behind will be up to a million worker termites that can chew up your staircase and digest the floor joists as they cart the digested wood to the queen. She, meanwhile, will be busy creating new offspring. Given the love termites have for heat and humidity, it's no surprise that Miami is America's most infested city.

The arrival of a supertermite could make the situation worse. Some Southern states—including Florida, Texas, and Louisiana—are battling the formosan, a rarer, hardier ter-

HOW AMERICAN INDUSTRY STACKS UP

Quality and exports are rising. But the U.S. is still losing ground in many markets that promise the fastest growth. Who's ahead—and who's likely to fall behind? ■ *by Andrew Kupfer*

YOU ARE LOOKING for signs that U.S. manufacturers have regained their muscle after a decade of Wall Street–inspired financial fiddling. You are tired of hearing how the country has lost its knack for making things—and especially tired of unsolicited advice from Japanese politicians who claim that the problem is "lazy" U.S. workers. Like millions of recession-weary Americans, you yearn to be an optimist again.

As Charlie Brown would say, "Sigh." For a cold, hard look at the numbers brings with it a cold, hard reality: On balance, the pain endured by American industry in the 1980s has yet to translate into major gains, either in market share or in relative competitiveness.

Yes, the quality of many products—from customized computer chips to recycled toilet paper—has vastly improved. The U.S. also exports far more airplanes, instruments, and other capital equipment now than it used to—45% of capital goods output, vs. 20% in the late 1960s, when America's industrial predominance was unchallenged.

But Asian and European rivals have been polishing their product lines just as vigorously. And some of the credit for that capital goods export boom goes to foreign manufacturers, which have invested heavily in U.S. operations since 1980. Finally, though the rapid decline of once great, made-in-the-U.S.A. industries like steel and autos may have slowed, American companies continue to lose ground in many markets that promise the fastest growth—and biggest profits—over the next decade.

How *does* the U.S. stack up? The scorecard gives our bottom line on the strength of 13 industries. An A implies a dominant position in the world, one not likely to erode significantly in the 1990s. B suggests solid leadership, shared with others. C connotes vulnerability and the risk of continued decline. D means a business is basically on its back.

What's troubling is not that this report card is so bad—after all, it does contain two A's and six B's. But ten years ago, computers and telecommunications equipment would have been arrayed, along with pharmaceuticals and forest products, in the top-rated category. Cars, aerospace, and industrial equipment would also have scored higher.

Since no single measure of competitiveness gives the whole picture, FORTUNE looked at three types of evidence to arrive at its ratings.

We began by examining industrial production by country, using data collected by the Organization for Economic Cooperation and Development in Paris, the definitive clearinghouse for such statistics. Comparing 1980 with 1989, the latest year for which figures are available, we asked what was the total value, in local currencies, of the electrical equipment or computer hardware made in the U.S., Japan, and ten European countries. We then converted that production to dollars and calculated the share of the total that each claimed. The charts that dot subsequent pages of this story reflect those shifting shares.

This way of dicing the data told us plenty about the relative attractiveness of the U.S. as a place to manufacture. But it blurred the performance of U.S. companies because it includes the output of foreign-owned plants. For example, GM's factories in Rüsselsheim get tallied as German production, while Nissan's plant in Smyrna, Tennessee, counts as American.

To focus more closely on the competitiveness of America's multinational corporations, we looked to research by management professor Lawrence Franko of the University of Massachusetts. Franko relies on another important international database—FORTUNE's lists of the 500 largest U.S. and global companies. For each year from 1960 to 1990, he has tallied the combined annual revenues of the 12 largest companies in various industries and calculated the U.S. share of that total.

When both Franko's company data and the OECD's country data are declining in tandem, you can be sure you've got trouble—right here in River City, or wherever. Conversely, when both are rising, you're in Fat City. Unfortunately, American companies have increased their share of sales in only two of our 13 industry groups—food and scientific and photographic equipment.

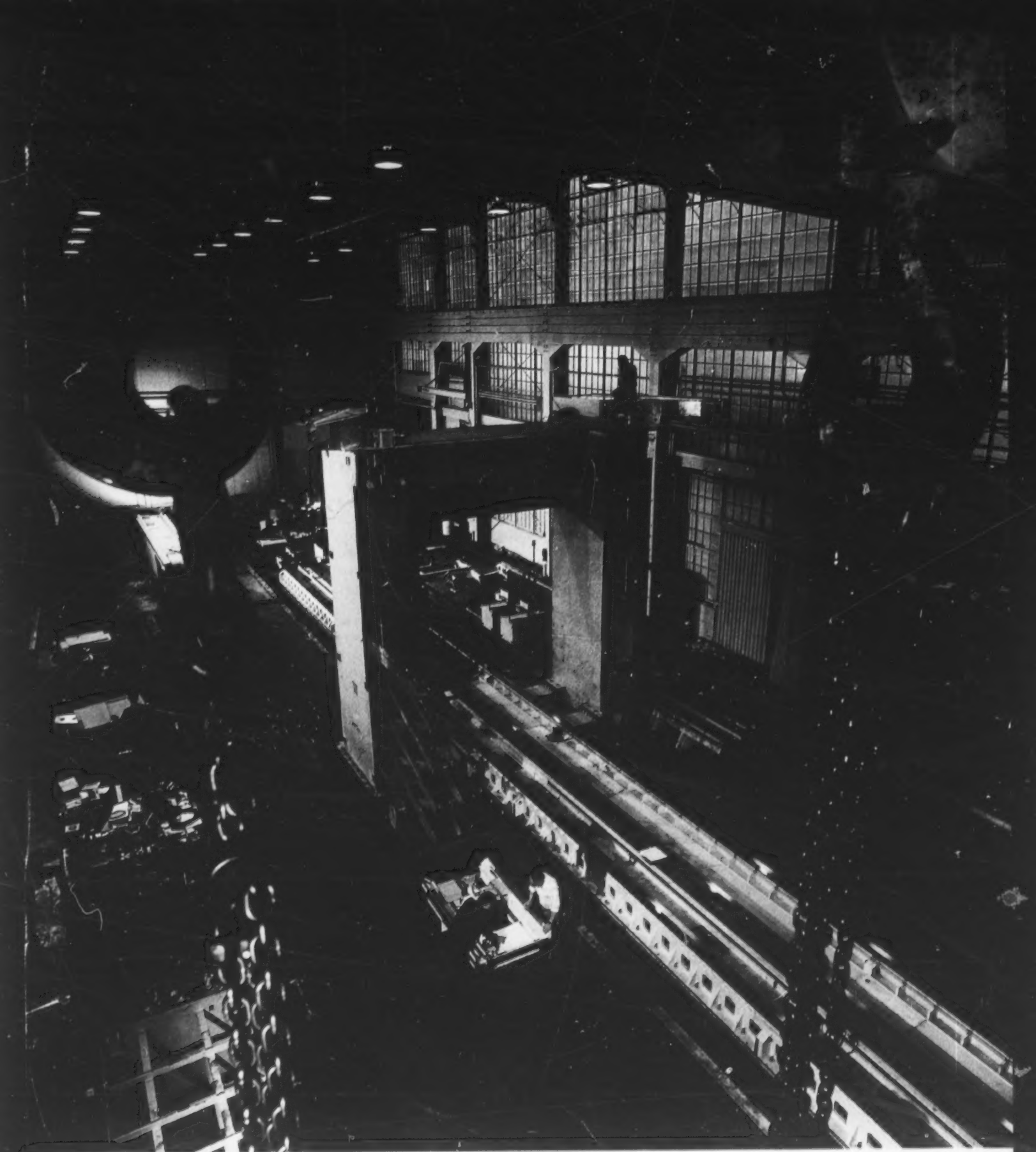
To round out the picture, FORTUNE in-

SCORECARD
in 13 Key Industries

Grades measure U.S. competitiveness relative to Japan and Europe. They reflect production data, company performance, and expert opinion.

A	PHARMACEUTICALS
A	FOREST PRODUCTS
B+	AEROSPACE
B	CHEMICALS
B	FOOD
B	SCIENTIFIC & PHOTOGRAPHIC EQUIPMENT
B	PETROLEUM REFINING
B-	TELECOMMUNICATIONS EQUIPMENT
C+	COMPUTERS
C	INDUSTRIAL & FARM EQUIPMENT
C	MOTOR VEHICLES
C-	METALS
D	ELECTRONICS

PHOTOGRAPH BY JAMES SCHNEPF



By building this automated planer mill, one of the world's largest, Wisconsin's Giddings & Lewis hopes to strengthen the U.S. machine tool business.

WENDY DUREN

As ketchup bottles fly by, a Heinz worker in Ohio checks labels. The U.S. leads in food production.

terviewed dozens of industry analysts, trade association representatives, academics, and corporate executives. The experts filled in what has happened to these 13 industries since 1989 and helped us assess not just where they've been but also where they are going.

The experts' observations, in turn, gave rise to a few broad themes that politicians and business leaders should heed if they hope to lift American competitiveness. First, U.S. manufacturers must somehow stop playing a perpetual game of catch-up with Japan. In the 1970s, while Americans concentrated on volume, the Japanese focused on cost. When the U.S. turned its eyes to cost, Japan moved on to quality. Now that the quality revolution has taken hold here, Japan is embracing what Harvard business school professor David Garvin calls "post just-in-time manufacturing." This involves speeding product development as well as production, with the goal of halving the time it takes to roll out a new manufactured good.

Second, the U.S. has to clarify its thinking about foreign investment in American business. The fivefold growth in that investment since 1980 has given rise to enormous anxiety. But more often than not, foreign ownership of U.S factories is a boon.

Consider what happened when Thomson of France bought GE's consumer electronics businesses. Marty Holleran, formerly with RCA and now head of Thomson's U.S. consumer electronics business, claims that GE "never had the commitment" his business required. By contrast, Thomson has spent over $300 million in the past three years to upgrade its U.S. manufacturing facilities, which include the world's largest TV factory, in Bloomington, Indiana.

Still, welcoming foreign investment doesn't mean the U.S. should blithely accept becoming a mere assembly site for companies that make technologically critical parts elsewhere. In 1988, the most recent year for which data are available, U.S. affiliates of foreign corporations imported $150 billion worth of merchandise—over a third of total U.S. imports. About 30% of those imports were auto parts, many of them high-tech. "Where in a car is the value added?" asks Maryann Keller, a top-rated analyst with Furman Selz, a New York investment bank. "In the production and knowledge of its components—the suspensions, engines, electronics. The country as a whole is a little richer from having that capability within its borders." That's why she advocates a strong domestic-content law for cars.

One of the best ways to strengthen America's technological leadership is to figure out how to speed the development and dissemination of new ideas among U.S. companies—and not just high-tech ones. The rapidity with which the Japanese adapt technology to manufacturing processes is a big reason why their productivity growth has outstripped America's by more than a third since 1979. (The other reason, which reflects Japan's higher savings rate, is a fourfold edge in capital formation.) Europe's productivity growth, savings, and investment have also outpaced America's—and that rate should pick up as European unification advances.

REPORTER ASSOCIATE *Jessica Skelly von Brachel*

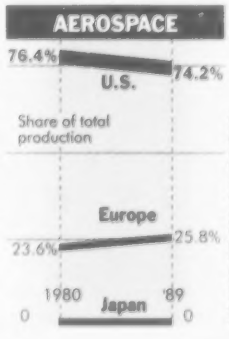
Now, for a trench-level view of how the U.S. will fare in future battles for global market share, let's look closer at those 13 industries, in alphabetical order.

■ **AEROSPACE.** In the air the U.S. still rules. American manufacturers produced a record $43 billion of aerospace exports in 1991—tops of any American industry by a wide margin. Boeing alone accounted for roughly $18 billion of those sales. Aerospace also generates America's largest trade surplus—$30 billion. Despite the prospect of declining defense sales, the underpinnings of this business look strong. Forecasters expect world airline capacity to double by 2005.

Even so, turbulence is building. The main threat: Europe's Airbus Industrie, jointly owned by aerospace companies from Britain, France, Germany, and Spain. Launched in 1969, Airbus now claims 30% of the market for commercial jets and has more than 100 customers. Propelling its ascent are solid design, aggressive marketing, and some $26 billion in government subsidies, according to Gellman Research Associates, which studied this issue for the U.S. Commerce Department. Says economist David Vadas of the Aerospace Industries Association of America: "When Airbus started, they said they wanted only a 20% market share. They have now targeted 37% by the end of the decade."

Frank Shrontz, chief executive of Boeing, sees another cloud forming as a result of the recent decision by McDonnell Douglas, the second-largest U.S. planemaker, to sell 40% of its commercial aircraft business to Taiwan Aerospace for $2 billion. McDonnell needed the money to afford the cost of developing a new wide-body airplane. Says Shrontz: "Our concern is that the new Douglas entity might become another subsidized competitor shielded from market reality—an Asian Airbus."

Japan is not a big factor in this industry, yet. Japanese companies are gearing up to make engines, electronic systems, and parts. The Commercial Aircraft Co., a consortium formed by Mitsubishi, Kawasaki, and Fuji Heavy Industries, now makes the fuselage for the



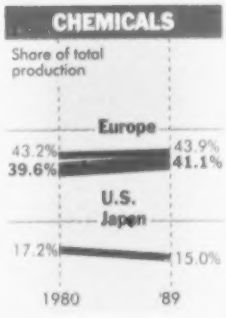
Boeing 767 midsize plane, and will make frame parts for Boeing's new 777 widebody jet. Japanese companies have joint ventures with Pratt & Whitney and Rolls-Royce to develop a high-performance, low-noise, low-pollution jet engine, and with General Electric to develop and produce the world's largest jet engine for the Boeing 777. Japan also is looking to parlay its expertise in electronics into skill in avionics. Coupled with its joint venture experience, that ability may let it join with U.S. or European companies as an equal partner when the time comes to build the new generations of supersonic and hypersonic planes.

Still, with Boeing in the vanguard, the U.S. should remain the world leader in this robust, high-stakes industry. The biggest threat, says Boeing's Shrontz, is that U.S. trade negotiators won't hang tough enough to persuade foreign governments to shut off their subsidy spigots: "This issue must be resolved. Enough is enough."

■ CHEMICALS. The U.S. still produces more chemicals than any other country in the world—$286 billion in 1990. That's partly because America's chief rivals—Europe's chemical giants—are extremely active on U.S. soil: BASF of Germany and ICI of Britain, among others, are both billion-dollar companies here. (By contrast, no Japanese company is in the top dozen in chemicals.)

But it's also because the biggest U.S. companies—Du Pont, the world's largest chemical maker, Dow Chemical, and Monsanto—have reformulated themselves. Some, such as Dow, have gotten more in sync with their customers by reorganizing into units that serve specific industries rather than churn out specific products. Most have also adopted the strategy of scaling down their high-volume, low-profit lines of industrial and agricultural chemicals. They are moving instead into specialty chemicals and other high-value products. Monsanto has been the most radical, abandoning its commodity chemical business entirely. Result: U.S. chemical exports boomed to $39 billion in 1990, second only to aerospace, and the industry's trade surplus has more than doubled since 1985 to $16.5 billion.

Unlike basic chemicals, the demand for which ebbs and flows with the economy, specialty chemicals provide some shelter from cyclicality—as well as higher margins. They do so either by creating new markets, from super-strong adhesives to cavity-fighting toothpaste additives, or by helping manufacturers to save money. Nalco Chemical, a $1.2-billion-a-year Naperville, Illinois, company, will send a strike force to a customer to figure out how to treat the water used in its manufacturing processes—to prevent corrosion of equipment, for example, or to keep little creatures from growing where they shouldn't.

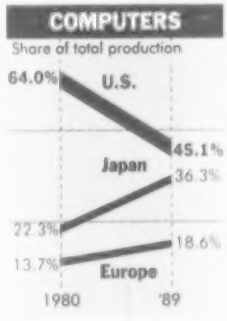


The key worry for U.S. chemical companies is the cost of environmental regulation, which could soar to $20 billion over the next decade, according to Gemini Consulting. The Europeans, in particular Germany, could well subsidize corporations that put in environmental controls. The U.S. government won't.

■ COMPUTERS. Conceiving and raising a child is tremendously satisfying. But it doesn't guarantee that the kid won't walk out on you once he matures. U.S. computer makers know the feeling. Their industry is now flourishing elsewhere. In some key parts of the business, foreign producers have already surpassed domestic manufacturers in revenues and know-how.

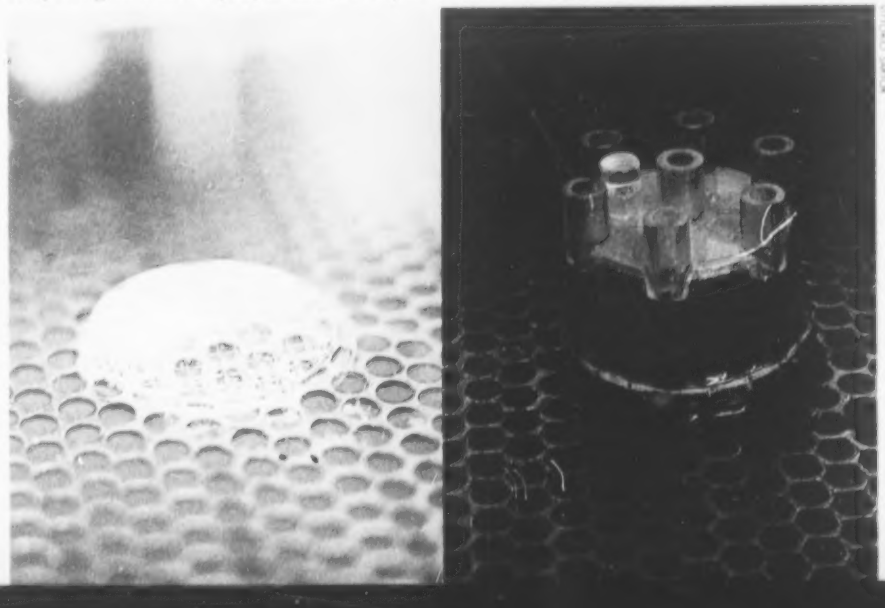
The culprit mainly responsible for robbing the American cradle is Japan. Computer production in that country tripled over the past decade, while U.S. output didn't quite double. Among the world's top dozen computer companies, by Franko's measure, the Japanese, led by Fujitsu, increased their share of global sales from 7% to 23%.

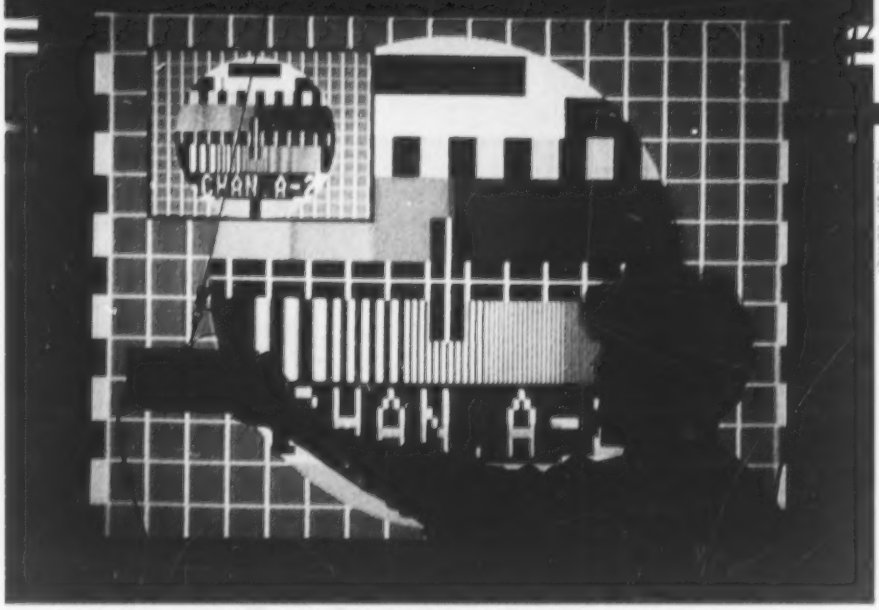
U.S. makers still claim a healthy 70% of the biggest companies' revenues. They also lead in the development of workstations, especially those based on new RISC technology (for reduced instruction set computing), which eliminates less frequently used circuits from computer chips and shifts instructions into the software, increasing speed. But rising imports have shrunk America's trade surplus in computer hardware from $7 billion in the early 1980s to under $1 billion in 1990. Most worrying: The U.S. has fallen behind Japan in critical parts of the industry—microelectronic components, chipmaking equipment, optoelectronics, printers, displays, and floppy disk drives.



Happily, the U.S. retains one big advantage that lies outside the scope of a story about manufacturing: software. More and more of the value in big computer systems lies in the software that controls them. With English as the universal business language, the U.S. has a natural advantage setting world standards. American companies also excel in writing the algorithms, or rules of procedure for problem solving, that let computers perform complex tasks, such as trans-

U.S. specialty-chemical makers, like Loctite of Hartford, are thriving in niche markets. Here, a computer-guided laser rapidly transforms a liquid resin (left) into a solid design prototype.





A worker checks a 46-inch screen at Thomson's TV plant in Bloomington, Indiana, largest in the world.

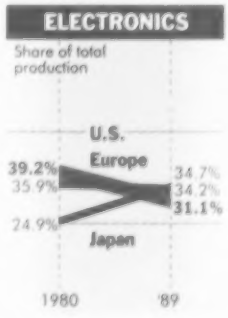
lating sound into digital signals. But here too Japan is coming on strong. Computer companies and consumer electronics companies, including Sony, have launched major drives to develop new operating systems. Expect the Japanese to keep building their share in computer hardware in the 1990s.

Despite a wave of mergers and billions of dollars in new investment, big European producers such as Siemens and Philips will likely continue to lose ground, as they have in the 1980s. The Europeans lack the R&D strength of their American counterparts and the production power of the Japanese.

Japan won't leap ahead of the U.S. unless its companies develop the ability to get to the market first with new generations of machines, and not just components. It's not the big boys of the U.S. industry, such as IBM—still the No. 1 computer maker in the world—that stand in their way, according to computer analyst Kiyohisa Ota of Nomura Research in New York. Instead, Ota points to America's innovative emerging growth companies—outfits like AST Research and MIPS Computer of Silicon Valley—as the crowd most likely to generate breakthrough discoveries.

■ ELECTRONICS AND ELECTRICAL EQUIPMENT. Like a rock. That's how fast the U.S. is sinking in consumer electronics. While small American electronics makers of the most expensive audio gear still do well with penthouse dwellers, in the mass market the U.S. is not much of a player. Production in Japan grew three times faster than in the U.S. during the 1980s, and European output grew nearly twice as fast. The Americans' share of sales among the top dozen electronics companies fell from 44% in 1980 to 11% by decade's end. Small wonder that the U.S. trade deficit with Japan in consumer electronics in 1990 was more than $10 billion.

What went wrong? Bill Krist, vice president of international affairs for the American Electronics Association, blames the government, at least in part: "The tax system favors real estate, agriculture, and consumption in general, not manufacturing." He must envy the competition in Japan, where the government used to assess a $10 tax on every color TV sold; all the money went toward research on high-definition TV.



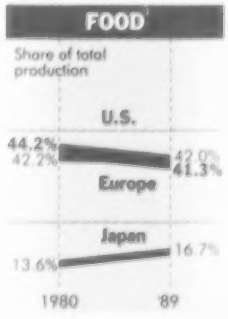
But American management is guilty too. Says Marty Holleran of Thomson Consumer Electronics: "The U.S. got out of the color TV market because its industry fell behind in integrated circuit technology." When TV prices dropped, American producers tried to keep profits up by boosting volume and cutting investment. They lost sight of quality and productivity and were blindsided by the Japanese, who had gained a foothold in the U.S. with their VCRs and camcorders. While Sony, Thomson, and other foreign manufacturers produce TVs in the U.S., Zenith, the only remaining American maker of sets, will soon build all of them in Mexico.

Despite their dominance, Japanese consumer electronics companies are facing minimal profits, mainly because they've captured about all of this slow-growing market they're likely to get. But their collective gambit has still paid dividends. By learning how to roll out high-quality consumer products cheaply and quickly, such companies as NEC and Panasonic are well positioned to shift into faster-growing areas like personal computers and cellular phones, which have been transformed by plummeting prices into mass markets.

The other half of the electronics game—electrical machinery—is a different contest. Here, the competition is over things like the turbines that generate electricity or the robots that put those turbines together. Here, too, the U.S. is recovering from lapses in quality, especially in standard products such as electric motors. Westinghouse bailed out of the power transmission and distribution business in 1989, selling its operations to Asea Brown Boveri of Switzerland. With the fall in the dollar, the U.S. electrical machinery business, led by GE, Cooper Industries of Houston—and ABB—is moving toward a positive trade balance for the first time since 1985.

The biggest chill is blowing from Europe. When a truly unified market becomes a reality at the end of 1992, factories that sell electrical products in Europe will need to be certified as meeting a new set of standards. These so-called ISO 9000 standards evaluate factories on every aspect of their operations, from training to manufacturing. U.S. exporters worry that the Europeans will wield the certification process as a nontariff trade barrier and shut them out.

■ FOOD AND DRINK. Raise a glass and pass the peanuts! The U.S. remains the world leader in making and distributing food and beverages. Exports aren't a big factor in this industry since each region of the world consumes nearly all it produces. Moreover, while people everywhere may be eating faster, they're not eating more. That fact, coupled with slow population growth in the developed world, limited growth in the global food business to 4% a year in the 1980s.



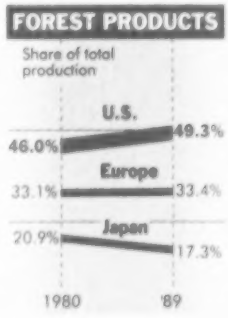
But American food and beverage companies beefed up sales by going on an acquisitions binge, both at home and abroad. According to a Nomura

Research report, Japanese food companies are growing by an average of only 4% a year, vs. 10% to 12% for U.S. companies. Operating income for Japanese food companies—none of which are among the world's 12 biggest—actually fell between 1985 and 1990, while it rose by about 20% a year for their U.S. counterparts.

The main challenge to American food supremacy: a unified Europe. With an arable land mass comparable to the U.S., the new Europe will be able to grow and process food much more efficiently once its member nations shed old rules that hampered cross-border comestibles. The rending of the Iron Curtain has opened a huge market in the East—and a new, low-cost source of supplies. While U.S. companies can buy their way in, they're likely to find that Western European food companies like Switzerland's Nestlé and France's BSN have already staked unbeatable claims. Exceptions: Coke and Pepsi.

These and other big blue-chip American players, such as Philip Morris and Nabisco, are all among the global top 12 in sales and should continue to do well. Not many people, with or without a blindfold, could tell the difference between a Cheeto (made by PepsiCo's Frito-Lay) and a Cheez Doodle (made by Borden's Wise); American marketing has made them think they can.

■ **FOREST PRODUCTS.** "The U.S. is to the paper industry what Saudi Arabia is to oil," says analyst George Adler of Smith Barney. (Both industries even rely on the same raw material, just at different stages in their life cycles.) But the U.S. leads not just because it has a lot of trees. American companies also have relatively lower labor and energy costs, and they invested more than $100 billion since 1980 to raise productivity and underwrite expansion into new products and markets. International Paper, which edges out Georgia-Pacific as the largest company in the industry, alone spent $8 billion since 1980 to modernize its mills and product lines.

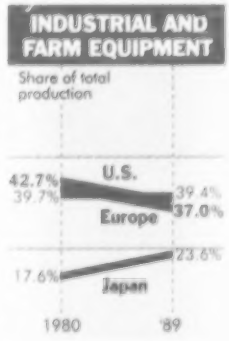


Fifteen years ago Canada supplied two-thirds of America's newsprint. Its market share has since been chopped back to 50%, partly because the Canadian dollar strengthened but also because U.S. companies built up their muscle in newsprint.

The international competition in forest products is mainly between the U.S. and tree-rich countries with tiny populations and big forest products companies—Sweden's Stora Kopparbergs, Finland's Repola, and Canada's Noranda. Though American producers in the past tended to focus on serving their huge internal market, exports have become increasingly important. In 1991 over 60% of America's market pulp production was shipped abroad. U.S. companies maintain they could export even more if Japan, the world's second-largest paper-consuming country, had a less restricted market.

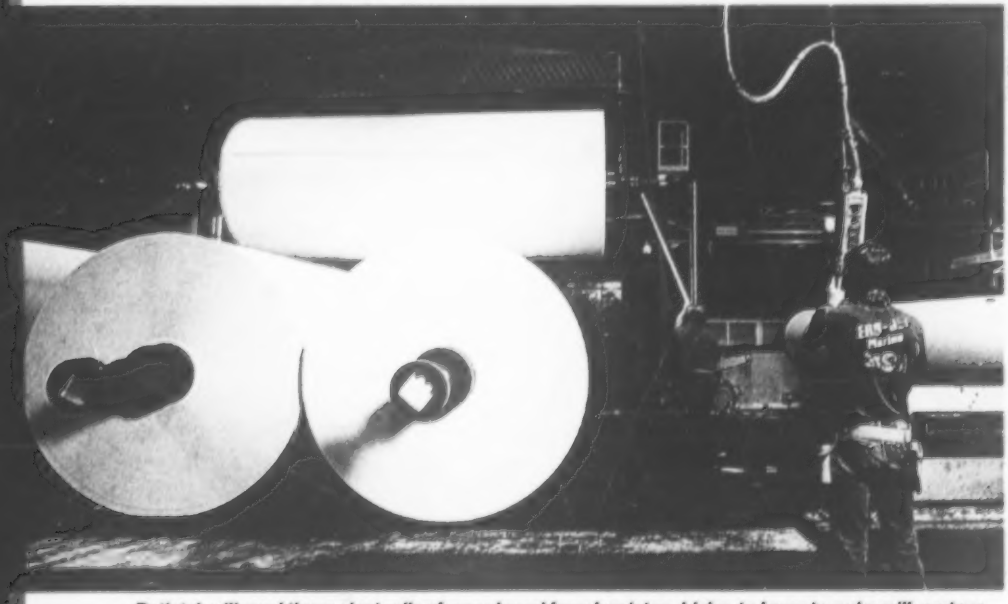
The big challenge in coming years will be from so-called nontraditional suppliers, such as Brazil and Chile, which enjoy a low-cost fiber supply. Both countries are increasing capacity, but you don't build a worldclass paper industry in a hurry or on the cheap. A single new pulp mill costs $600 million.

■ **INDUSTRIAL AND FARM EQUIPMENT.** In this bread-and-butter business, Japanese companies have been eating America's lunch. Long-established U.S. equipment makers thought their position unassailable and didn't invest enough at the beginning of the decade. As a result the U.S. share of total production is down by six percentage points, all lost to Japan, and that's not counting the sizable investment such Japanese companies as Komatsu have made in factories on U.S. soil. Industry restructuring and the weaker dollar have given the U.S. growing, though modest, trade surpluses since 1989. But only Tenneco, Caterpillar, and Deere remain in the top dozen global companies; in 1980 five American companies made the list. Japanese newcomers include Mitsubishi Heavy Industries and Komatsu.



For American and foreign competitors alike, the action is in developing countries. Caterpillar, which gets over half its revenues abroad, prefers to export rather than build more plants overseas—especially at a time of global overcapacity. So Cat executives oppose any policy that mucks up free trade.

High on their hit list is a 1987 Voluntary Restraint Agreement that froze imports of Japanese machine tools. Once upon a time—1955, to be precise—America's share of the global market for these automated power-driven tools, which transform metal into finished components, was 50%. Now it is 10%. Japan moved in on this market the same way it

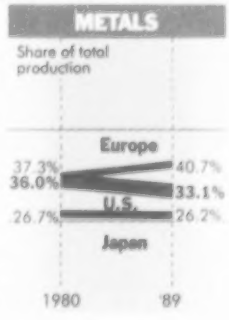


Potlatch will send these giant rolls of paperboard from Lewiston, Idaho, to Japan to make milk cartons.

did in so many others: by focusing on low-cost, high-quality mass production. It has built its global share from 1% to 23% and is now the world leader.

Some of the surviving American machine tool makers have used the shelter of the VRAs to reshape their operations. Giddings & Lewis of Fond du Lac, Wisconsin, has been investing 10% of sales in state-of-the-art flexible manufacturing equipment. But the major effect of the VRA has been to boost the price of machine tools while guaranteeing the Japanese a fixed unit share. According to the International Trade Commission, U.S. companies had to pay $157 million more for machine tools in 1987 and 1988 alone. That premium, in turn, makes American buyers of machine tools, like Caterpillar, less competitive.

METALS. No American manufacturer makes the list of the world's 12 largest steel companies; in 1980, three did (U.S. Steel, Bethlehem Steel, and Armco). Today, Japanese companies, such as Nippon and Sumitomo, and German ones, such as Thyssen and Preussag, dominate the big league. So how did the U.S. share of total production hold steady? Because of foreign investment. Every major U.S. steel company now has at least one joint venture with a non-American metal manufacturer: Armco with Kawasaki, National Steel with NKK, and U.S. Steel with Pohang Iron & Steel of South Korea.

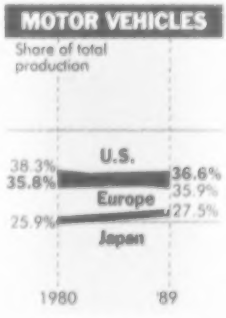


Japan leads the lot, having put more than $3 billion into joint ventures. Most of these concentrate on making high-quality sheet steel to supply Japanese carmakers now resident in the U.S. This trans-Pacific capital migration, bolstered by the decline in the dollar, has profoundly altered the pattern of the steel trade. In the U.S., imports have shrunk 6% annually over the past five years, and exports have risen 46% a year, albeit from a very low base. Imports are now 19% of U.S. consumption, down from 26% in the mid-1980s.

Foreign joint ventures have given the surviving American integrated steelmakers both the capital and the technology to improve their manufacturing processes. As a result, since the early 1980s, U.S. companies have cut in half the time they need to make a metric ton of steel, according to AUS Consultants of Morristown, New Jersey. They now even beat the Japanese (5.3 hours, vs. 5.5).

Today the big U.S. companies' main worry is their feisty red, white, and blue rivals—domestic mini-mills, which make steel not from scratch but from scrap. Mini-mill steelmakers, such as Nucor and Chaparral Steel, increased their share of U.S. production from 14% to 24% over the past decade. Where the integrated companies hope to stay ahead is in specialty steels, efficiently produced. Allegheny Ludlum has invented a process for stainless-steel manufacturing that reduces the number of steps from 20 to two.

MOTOR VEHICLES. Is the U.S. car industry screeching toward Dead Man's Curve? Pessimists point to the following facts. Detroit's Big Three collectively lost an estimated $6.8 billion in 1991—their worst year ever. The only reason production in the U.S. was able to keep pace with Europe and Japan in the 1980s is that Honda, Nissan, Toyota, Mazda, Mitsubishi, Subaru, and Isuzu all shifted manufacturing here. Despite those transplants, America's annual trade deficit in motor vehicles and equipment has climbed to almost $50 billion—cars and parts make up about two-thirds of the U.S. trade deficit with Japan. GM and Ford may still be the biggest car companies in the world, but their advantage has shrunk. In 1980 GM was four times the size of Toyota, measured by sales; in 1990 it was less than twice as big. Japan's share of the U.S. car market has grown from 20% to 30% since 1985.

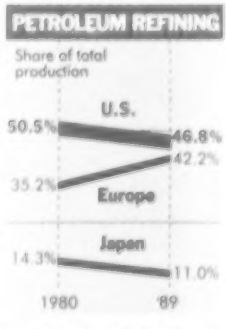


Still strapped into your seat? OK, here are some reasons to be optimistic. First and foremost, the quality ratings of U.S. cars improved dramatically since 1986, more than for comparable Japanese autos, which, of course, had less to fix. That focus on quality, in turn, is increasing the speed and lowering the cost of U.S. auto production: Ford now builds a Taurus in 18 hours, about the same time as Toyota takes for a comparable car. None of that means Detroit is going to regain share lost to Japan. But once the recession ends and profits rebound, it should be in a position to stand its ground.

The brightest spot for U.S. automakers is Europe. Despite its dismal track record at home, GM excelled on the Continent during the past decade. (For more on General Motors, see Autos.) According to auto analyst Maryann Keller, it makes the most competitive lines in Europe and has the newest cars. GM even has a bigger share of the East German market than Volkswagen. The European Community's decision last fall to grant a small increase in market share to Japanese car producers—their sales have long been restricted by quotas in the largest European countries—poses a small threat to GM and Ford. But the bigger losers will be heavily protected carmakers—Fiat, Peugeot, and Renault.

PETROLEUM REFINING. Geology is destiny. Don't expect a lot of change in an industry where the major input has been in place for millions of years and everyone is looking for it with pretty much the same tools. Ownership of reserves is still what makes the difference.

That's why U.S. oil and gas production remains nearly as big as Europe's and Japan's combined, though the plunge in prices since 1980 has cut the value of that production by 26%. Elsewhere, the large national oil companies in Saudi Arabia, Venezuela, Mexico, and even what remains of the old Soviet Union are all producing more than they were ten years ago.

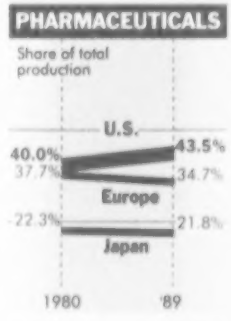


Despite their advantage in size, American petroleum refiners don't pump out richer profit margins than their foreign competitors. This failure surprised analyst Bernard Picchi of Salomon Brothers when he did a comprehensive study of the industry in 1991. "U.S. refiners are much more sophisticated than their European or Asian counterparts," he says. The U.S. produces significantly more gasoline, jet-grade kerosene, chemical feedstocks, and other higher-value products. The Europeans have

kept their profits up because their markets are still protected by regulation.

In the next decade the edge will go to companies that are good at securing new reserves. Developing nations, including Russia, will be inviting companies in to get their resources out. When pressed to name a first among equals, Picchi picks British Petroleum as a finder of oil. As for the technology of enhanced recovery, such American companies as Marathon and Atlantic Richfield are first-rate when it comes to massaging oil from the rock that contains it.

■ PHARMACEUTICALS. For worriers about U.S. competitiveness, America's drugmakers deliver a natural high. In this fast-growing market, U.S. production rose 145% between 1980 and 1989, outpacing both Europe (107%) and Japan (121%). Among professor Franko's top 12 pharmaceutical companies, Switzerland's Ciba-Geigy heads the list. But six U.S. companies, led by Johnson & Johnson and Bristol-Myers Squibb, have about 50% of the sales pot. And the U.S. remains the world center for research in the field, spurred in part by America's status as the only industrialized country where doctors and hospitals can charge pretty much what they like.



In the 1990s the European industry will get a boost from political and economic unification. Myriad national regulations have made it hard for Old World drugmakers to introduce new products across the Continent. But any easing of trade barriers in Europe should also benefit U.S. suppliers, which will be facing mounting political pressure back home to help hold down health care costs.

Japan currently has no representatives among the top 12 pharmaceutical companies. That may change in the 1990s; the Japanese share of new drug patents has doubled in the past 15 years, to 14%. Companies to watch: Takeda Chemical and Sankyo. Still, this is one industry where the U.S. lead looks unassailable.

■ SCIENTIFIC AND PHOTOGRAPHIC EQUIPMENT. U.S. companies have more than held their own in this grab bag category, which includes a few familiar names, like Eastman Kodak, Xerox, and 3M, and a far larger list of smaller fry, such as Millipore of Bedford, Massachusetts. (Millipore makes instruments and membrane filters used for everything from testing wine to sterilizing pharmaceuticals.)

Indeed, this is a rare example of an industry where production in the U.S. has grown faster than in Europe and Japan, even as America's share of the largest companies' sales also climbed—from 78% in 1980 to 86% in 1990. There is some doubt that these welcome trends will continue, however. A recent Commerce Department study identified medical devices and sensor technology as two areas in which the U.S. edge could be dulled by growing Japanese and European competition.

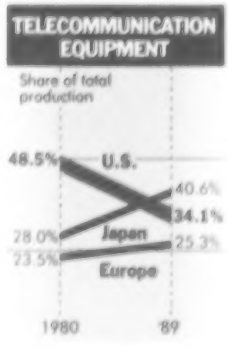
■ TELECOMMUNICATIONS EQUIPMENT. This group generates mixed signals. AT&T is still the world's biggest telecommunications company, accounting for 13% of the global industry's R&D spending. And U.S. companies still dominate the market for installing private networks for businesses.

But Alcatel of France has surpassed AT&T in worldwide sales of all telecommunications equipment. Other European and Japanese companies are also growing faster, which partly explains the steep decline in America's share of total production—down from 48% in 1980 to 34% in 1989. The other reason: U.S. equipment makers moved operations offshore, mainly to Asia, and now import a lot of their components. On balance, America is now running a $2 billion trade deficit in this industry.

As profit margins on standard phone equipment continue to shrink, new technology will separate winners from also-rans. FCC Chairman Alfred Sikes maintains the best thing he can do to help U.S. companies compete in new technologies like high-definition TV and personal communication networks is to remove some of the obstacles that now keep various players—local phone companies and cable TV companies, for example—off each other's turf.

Even with those barriers, American equipment makers are better prepared to thrive in a less regulated global telecommunications market than most of their foreign counterparts, which until recently were either state-owned or protected suppliers. NTT America President Taketo Suzuki, who buys equipment for the Japanese phone system overseas, recalls that ten years ago he couldn't even find high-end multiplexers in Japan to route phone traffic over the new digital telephone lines his company was installing. He bought them in the U.S.

What could cost the U.S. dearly, however, is its halfhearted embrace of fiber optics and advanced telephone service, or ISDN (for Integrated Services Digital Network). ISDN allows users to send different types of information—voice, data, graphics, and video—over a single phone line at the same time. By the end of this year all phone lines in France, Hong Kong, and Singapore will have ISDN capability, as will 87% of those in Japan. And in the U.S.? Only 19%. That reluctance of phone companies to invest until the returns are clear may hamper the ability of U.S. equipment suppliers to keep pace. Suzuki of NTT says: "In the U.S. ISDN and optic fiber to the home is almost thought of as nonsense. In Japan it's a slogan. ISDN is a worldwide phenomenon. Without it, the U.S. cannot be the world leader in telecommunications."



HERE'S ANOTHER WAY to put what Suzuki is saying to American companies: Invest and innovate—not an easy job in a fast-changing global market, where technological competence is proliferating and new challengers are increasingly emerging from countries that many in North America, Japan, and Europe still condescend to call the Third World. But America's industrial competitiveness—and the standard of living it can offer its citizens—ultimately hinges on how well U.S. managers and entrepreneurs, workers and politicians, do just that. ■

THE TOP MUTUAL FUNDS

Which funds really fattened your wallet after the broker, the portfolio manager, and the tax man took their cuts? Here's a look at the stars in 13 categories.

■ BY KAREN NICKEL

TO SAY THAT 1991 was a very good year for mutual funds is faint praise. It was a spectacular year. The average diversified stock fund rose 36.2%, outperforming Standard & Poor's 500-stock index (1991 return: 30.4%) for the first time since 1982. Nine of the funds on FORTUNE's list of the 100 best stock and bond funds had returns of 70% or more—and that's *after* subtracting all expenses, sales loads, and taxes.

For outsize performance, nothing beat small-company growth funds, which returned 45.6%, on average, after taxes and fees. Pretty impressive—until you compare it with the results of the superstars on FORTUNE's list. **Twentieth Century Ultra Investors** returned 86.5%, **Twentieth Century Giftrust Investors** 82.1%, and **Oberweis Emerging Growth** 77.2%. Many money managers believe that, after seven years in the wilderness, small-company stocks are now positioned to continue outperforming the S&P 500 for the next few years.

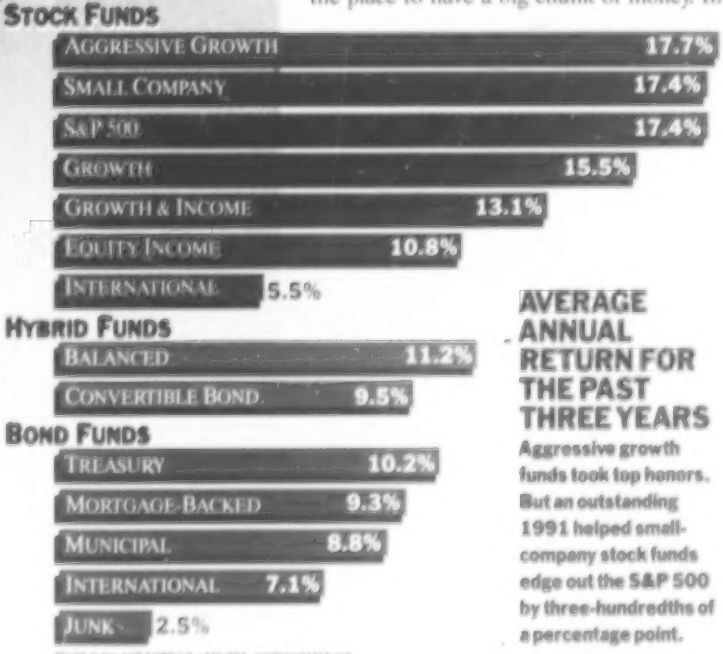
FORTUNE lists its 100 winners by three-year return in 13 categories (see chart). During that period, aggressive growth funds ranked as the best of the bunch, with an average annual return of 17.7%, even though the overall winner was Twentieth Century Ultra (three-year average annual return: 39.2%). Junk bond funds were the laggards, returning just 2.5% a year.

With short-term interest rates at their lowest levels in 27 years, stocks are clearly the place to have a big chunk of money. Investors are catching on. The Investment Company Institute, the national association of the mutual fund industry, says stock mutual funds took in 36% more money in 1991 than in 1990. Some funds can barely keep up with demand. Investors calling the Twentieth Century family of funds or **Alger Small Capitalization** are more likely to get a busy signal than a human voice.

Much of the new money has poured into the white-hot small-stock funds. In fact, their sudden popularity has prompted some of the more successful ones, including **Janus Venture** and **Nicholas Limited Edition**, to close to new investors. Small-company funds have a particular problem with rapidly rising inflows of cash. Since small-cap stocks can absorb only a limited amount of new money, the cash-rich small-stock funds may be forced to start buying larger-capitalization shares. This year's darling, Twentieth Century Ultra, saw its assets balloon from $450 million in January 1991 to nearly $3 billion by year's end. Partly as a result, the median capitalization of the companies Ultra invests in has risen from $441 million to $974 million.

To be eligible for FORTUNE's highly selective list, stock and bond funds must meet several criteria. They must be open to new investors. The manager—or at least one member on a team of managers—has to have been with the fund throughout the three-year period; that means the ace who steered the fund to its stellar returns is still at the helm. In the interests of diversity, funds that invest in a single sector, state, or foreign country have been excluded.

The performance numbers you see in FORTUNE's tables are quite different from the numbers you will see published elsewhere. Unlike most fund lists, ours calculates average annual returns *after* subtracting expenses, sales loads, and taxes on capital gains and income distributions. The SEC requires all funds to subtract annual



AVERAGE ANNUAL RETURN FOR THE PAST THREE YEARS

Aggressive growth funds took top honors. But an outstanding 1991 helped small-company stock funds edge out the S&P 500 by three-hundredths of a percentage point.

RENEE KLEIN FOR FORTUNE / SOURCE: MORNINGSTAR INC.

expenses—the percentage of assets retained by management to cover overhead—before calculating total return. But sales loads—the commission payments to the brokers or direct-marketers who sell the funds—aren't factored in, even though they can be quite substantial. FORTUNE's returns, compiled with the help of Morningstar Inc., the Chicago-based mutual fund rating service, tell you how much money you really have to take home—or to reinvest.

> Most investors underestimate the effect that capital gains taxes have on their returns.

We've taxed every distribution an investor in these funds would have received at the 28% rate before reinvesting the proceeds. Most investors underestimate the effect that capital gains taxes have on their returns. As Congress debates President Bush's latest call to cut the capital gains tax, here's a reminder of how much the government can share in your good fortune. **Founders Special**, a no-load aggressive growth stock fund, posted a three-year average annual return of 26.9%. But after subtracting taxes, the return falls to 22.6%. That means a $10,000 investment made three years ago is worth $18,419 today—not $20,411. The government's take amounted to nearly $2,000.

What you pay in capital gains tax is directly related to your fund's portfolio turnover rate. Each time the manager sells a stock that has gone up in value, he must, by law, pass along the gains to you. And you must pay capital gains taxes on them even if you decide to reinvest the proceeds. The more a stock fund sells its securities, the higher the turnover rate. **Robertson Stephens Emerging Growth** is a small-company fund with a high portfolio turnover—272% last year; that means the manager's trading volume was nearly three times the fund's assets. Because of the capital gains generated, Robertson Stephens lost 7% of its 35.9% return over the past three years to taxes. Twentieth Century Ultra, on the other hand, with a turnover rate of 42%, gave up only 3% of its 40.8% return to taxes. Looked at another way, a $10,000 investment in Robertson Stephens would have lost $1,742 to taxes, vs. $941 for Ultra.

Since bond funds generate lots of taxable interest income (municipal bond funds excepted), the after-tax returns shown here are also much lower than what you see promoted. And bond fund returns got a double tax whammy this year because as interest rates fell, the bonds incurred capital gains.

Our list also shows a fund's risk and its annual expenses. The risk ratings are a comparison of a fund's volatility relative to the returns on short-term Treasury bills. The annual expenses are expressed as a percentage of your assets that the fund keeps each year to cover its costs; these expenses can silently nibble away at your return. In general, it's better to buy funds with low expenses. The Vanguard Group is the king of low fees, but T. Rowe Price, Benham Group, and Scudder Stevens & Clark are good bets too.

Investment strategists often recommend putting your money in a management company with a wide array of funds. This allows you to move money quickly among different types of funds. For example, if you think international stocks are due for a boom, you could easily switch into an international fund from, say, a growth fund that has had a good run-up lately. It isn't easy to find a team full of all-stars, but FORTUNE's list shows a few standouts. For sheer numbers, Twentieth Century Mutual Funds is remarkable. Five of its 13 funds made our list of top performers, so chances are good that you can switch from a winner to a winner. If your call gets through.

STOCK FUNDS

MUTUAL FUND BY CATEGORY TELEPHONE	AVG. ANNUAL RETURN[1] 3 years	 1 year	ASSETS 12/31/91 in millions	FEES Sales load	 Annual expenses	PORTFOLIO TURNOVER	RISK	MANAGER
AGGRESSIVE GROWTH GROUP AVERAGE[2]	17.7%	39.1%						
Kaufmann 800-237-0132	34.7%	77.3%	$140	0.20%[3]	3.50%	195%	Above avg.	L. Auriana, H.Utsch
Enterprise Capital Appreciation 800-432-4320	27.9%	51.4%	$33	4.75%	1.75%	45%	Below avg.	Jeff Miller
AIM Constellation 800-347-1919	26.5%	60.3%	$487	5.50%	1.40%	109%	Above avg.	H. Hutzler, J. Schoolar
Keystone Custodian S-4 800-343-2898	24.0%	61.1%	$783	4.00%[4]	1.38%	57%	Above avg.	Roland Gillis
Thomson Opportunity B 800-628-1237	23.5%	62.1%	$80	1.00%[4]	2.00%	145%	Above avg.	Donald Chiboucas
Seligman Capital 800-221-2450	22.9%	42.6%	$173	4.75%	1.04%	23%	Average	Loris D. Muzzatti
Founders Special 800 525-2440	22.6%	60.1%	$224	None	1.09%	89%	Average	Multiple managers
Strong Discovery 800-368-3863	22.5%	56.6%	$163	2.00%	1.90%	494%	Average	R. Strong, W. Corneliuson
MetLife-State St. Cap. Apprec. 800-882-0052	22.2%	66.6%	$101	4.50%	1.50%	246%	High	Fred Kobrick
Kemper Summit 800-621-1048	21.7%	55.6%	$353	5.75%	1.25%	126%	Average	C. Beth Cotner
GROWTH GROUP AVERAGE[2]	16.5%	29.6%						
Janus Twenty 800-525-8983	36.2%	68.4%	$1,348	None	1.07%	163%	Average	Thomas Marsico
Berger 100 800-333-1001	35.6%	88.0%	$192	None	2.24%	78%	Average	William Berger
Twentieth Century Growth 800-345-2021	31.3%	69.0%	$3,879	None	1.00%	69%	Average	Multiple managers
Vanguard World U.S. Growth 800-662-7447	27.8%	46.2%	$978	None	0.74%	49%	Below avg.	J. P. Hall III, D. Fowler
MIM Stock Appreciation 800-233-1240	27.7%	71.3%	$13	None	2.70%	185%	Average	Arthur J. Bonnel
Pasadena Growth 800-882-2855	26.6%	58.5%	$324	5.50%	2.20%	32%	Above avg.	Roger Engemann
AMEV Growth 800-800-2638	26.5%	57.4%	$421	4.75%	1.20%	58%	Above avg.	Stephen Poling

[1]Performance is through December 1991 and net of annual expenses, brokerage costs, and sales loads, also net of taxes, assuming a 28% rate for capital gains and income distributions. [2]Average annual return for all funds tracked by Morningstar in each category. [3]Redemption fee. [4]Deferred sales charge, which declines over time.

JIM MCDONNOUGH

STOCK FUNDS

MUTUAL FUND BY CATEGORY TELEPHONE	AVG. ANNUAL RETURN[1] 3 years	 1 year	ASSETS 12/31/91 in millions	FEES Sales load	 Annual expenses	PORTFOLIO TURNOVER	RISK	MANAGER
GROWTH cont'd								
Fidelity Growth Company 800-544-8888	**26.1%**	41.1%	**$1,376**	3.00%	1.11%	**161%**	Average	Robert Stansky
Piper Jaffray Value 800-333-6000	**25.1%**	40.2%	**$137**	4.00%	1.32%	**36%**	Average	John Tauer Jr.
IDEX II 800-624-4339	**24.9%**	48.2%	**$186**	5.50%	1.48%	**102%**	Average	Thomas Marsico
GROWTH & INCOME GROUP AVERAGE[2]	**13.1%**	23.4%						
AIM Charter 800-347-1919	**22.4%**	28.5%	**$587**	5.50%	1.29%	**144%**	Low	Julian Lerner
CIGNA Value 800-572-4462	**18.6%**	32.1%	**$152**	5.00%	1.21%	**131%**	Average	James Giblin
SteinRoe Prime Equities 800-338-2550	**18.0%**	30.7%	**$63**	None	1.00%	**48%**	Below avg.	Ralph Segall
Sit "New Beginning" Inc. & Gr. 800-332-5580	**17.7%**	31.1%	**$31**	None	1.50%	**70%**	Below avg.	Peter L. Mitchelson
U.S. Boston Gr. & Inc. Ordinary 800-872-7866	**17.4%**	23.5%	**$44**	1.00%[3]	1.80%	**96%**	Below avg.	J. Kimball Dow
Vanguard Quantitative 800-662-7447	**17.4%**	28.2%	**$335**	None	0.48%	**81%**	Average	John Nagorniak
FAM Value 800-932-3271	**17.1%**	38.2%	**$14**	5.00%[4]	1.53%	**9%**	Below avg.	T. Putnam, D. Van Buren
Stagecoach Corporate Stock 800-222-8222	**17.1%**	28.7%	**$205**	None	0.97%	**6%**	Average	Geraldine Ham
Fidelity U.S. Equity Index 800-544-8888	**16.8%**	28.7%	**$1,051**	None	0.28%	**4%**	Below avg.	Jonathan Weed
MIMLIC Investors I 800-443-3677	**16.8%**	29.8%	**$20**	5.00%	1.31%	**33%**	Below avg.	James P. Tatera
EQUITY INCOME GROUP AVERAGE[2]	**10.8%**	21.1%						
Kidder Peabody Equity Income 212-656-1731	**21.8%**	39.7%	**$127**	5.75%	1.60%	**178%**	Low	John Chadwick
Financial Industrial Income 800-525-8085	**21.7%**	43.3%	**$1,597**	None	0.94%	**104%**	Low	John Kaweske
Helmsman Income Equity 800-338-4345	**13.1%**	22.0%	**$103**	None	0.42%	**9%**	Low	Ralph Patek
Stratton Monthly Div. Shares 800-634-5726	**12.9%**	32.2%	**$43**	None	1.24%	**43%**	Low	G. Heffernan, J. Stratton
SteinRoe Total Return 800-338-2550	**12.7%**	26.9%	**$157**	None	0.87%	**71%**	Low	Robert Christensen
Capital Income Builder 800-421-0180	**12.2%**	16.6%	**$657**	5.75%	1.01%	**25%**	Low	Multiple managers
Keystone America Equity Income 800-343-2898	**12.1%**	17.7%	**$26**	4.75%	2.00%	**50%**	Low	Walter McCormick
Founders Equity Income 800-525-2440	**11.4%**	20.2%	**$19**	None	1.65%	**107%**	Low	Multiple managers
Dean Witter Equity Income 800-869-3863	**11.4%**	14.9%	**$150**	5.00%[4]	2.09%	**131%**	Below avg.	Ken Hinchliffe
Amana Mutual Funds Trust Inc. 800-728-8762	**11.2%**	22.8%	**$7**	None	1.66%	**29%**	Low	Nicholas Kaiser
SMALL COMPANY GROUP AVERAGE[2]	**17.4%**	45.6%						
Twentieth Century Ultra Investors 800-345-2021	**39.2%**	86.5%	**$2,940**	None	1.00%	**42%**	Above avg.	Multiple managers
Alger Small Capitalization 800-992-3863	**34.7%**	45.0%	**$81**	5.00%[4]	2.31%	**253%**	Above avg.	David Alger
Robertson Stephens Em. Growth 800-766-3863	**32.7%**	56.1%	**$142**	None	1.53%	**272%**	Above avg.	Robert Czepiel
Hartwell Emerging Growth 800-343-2898	**31.7%**	60.3%	**$108**	4.75%	2.50%	**96%**	High	John M. Hartwell
MFS Lifetime Emerging Growth 800-225-2606	**30.5%**	74.2%	**$191**	6.00%[4]	2.66%	**86%**	High	John Ballen
Twentieth Century Giftrust Inv. 800-345-2021	**30.3%**	82.1%	**$64**	None	1.00%	**143%**	High	Multiple managers
Oberweis Emerging Growth 800-323-6166	**30.3%**	77.2%	**$20**	None	2.15%	**44%**	High	James Oberweis
Twentieth Century Vista Investors 800-345-2021	**29.7%**	73.7%	**$767**	None	1.00%	**92%**	High	Multiple managers
Sit "New Beginning" Growth 800-332-5580	**28.2%**	64.3%	**$209**	None	1.03%	**37%**	Average	Douglas C. Jones
Scudder Development 800-225-2470	**26.9%**	70.5%	**$893**	None	1.29%	**71%**	Above avg.	Roy C. McKay
INTERNATIONAL GROUP AVERAGE[2]	**5.5%**	8.9%						
Oppenheimer Global 800-525-7048	**15.2%**	19.3%	**$1,171**	5.75%	1.77%	**27%**	Average	Ken Oberman
Smith Barney International Equity 800-544-7835	**13.6%**	26.6%	**$45**	4.50%	2.88%	**67%**	Average	Multiple managers
Dreyfus Strategic World Investing 800-645-6561	**13.5%**	14.1%	**$55**	3.00%	1.78%	**566%**	Low	Fiona Biggs
Harbor International 800-422-1050	**13.3%**	21.1%	**$221**	None	1.35%	**19%**	Average	Hakan Castegren
Scudder Global 800-225-2470	**13.0%**	15.4%	**$299**	None	1.81%	**38%**	Below avg.	William E. Holzer
G.T. Pacific Growth 800-824-1580	**10.9%**	6.0%	**$334**	4.75%	2.00%	**74%**	Average	Christian Wignall
G.T. Worldwide Growth 800-824-1580	**10.8%**	14.2%	**$128**	4.75%	1.90%	**122%**	Average	Christian Wignall
T. Rowe Price Intl. Discovery 800-638-5660	**10.7%**	11.4%	**$167**	None	1.50%	**14%**	Above avg.	Martin G. Wade
GAM Pacific Basin 212-888-4200	**10.5%**	10.6%	**$36**	5.00%	2.23%	**103%**	Average	Michael Bunker
New Perspective 800-421-0180	**10.3%**	14.3%	**$2,458**	5.75%	0.82%	**14%**	Below avg.	Multiple managers

[1]Performance is through December 1991 and net of annual expenses, brokerage costs, and sales loads; also net of taxes, assuming a 28% rate for capital gains and income distributions. [2]Average annual return for all funds tracked by Morningstar in each category. [3]Redemption fee. [4]Deferred sales charge, which declines over time.

HYBRIDS, BOND FUNDS

MUTUAL FUND BY CATEGORY / TELEPHONE	AVG. ANNUAL RETURN[1] 3 years	1 year	ASSETS 12/31/91 in millions	FEES Sales load	Annual expenses	PORTFOLIO TURNOVER	RISK	MANAGER
BALANCED GROUP AVERAGE[2]	**11.2%**	**18.9%**						
Twentieth Century Balanced 800-345-2021	**22.0%**	45.8%	**$351**	None	1.00%	**116%**	Average	Multiple managers
Pasadena Balanced Return 800-882-2855	**19.2%**	30.7%	**$16**	5.50%	2.50%	**36%**	Above avg.	Roger Engemann
Equitable Balanced B 800-852-6860	**18.4%**	31.5%	**$30**	5.00%[4]	2.15%	**137%**	Below avg.	Judy Taylor
Kemper Inv. Port. Total Return 800-621-1048	**17.5%**	36.1%	**$747**	3.00%[4]	2.24%	**121%**	Below avg.	C. Beth Cotner
CGM Mutual 800-345-4048	**17.4%**	36.0%	**$402**	None	0.95%	**261%**	Above avg.	G. Kenneth Heebner
Kemper Total Return 800-621-1048	**16.3%**	29.8%	**$1,087**	5.75%	0.87%	**157%**	Average	Gordon Wilson
Pax World 800-767-1729	**15.5%**	16.9%	**$271**	None	1.30%	**39%**	Low	Anthony Brown
MainStay Total Return 800-522-4202	**15.4%**	27.3%	**$165**	5.00%[4]	2.40%	**213%**	Average	Multiple managers
Phoenix Balanced 800-243-4361	**14.5%**	16.6%	**$1,108**	4.75%	0.90%	**193%**	Low	Patricia Bannan
Dodge & Cox Balanced 415-434-0311	**12.5%**	19.0%	**$197**	None	0.70%	**10%**	Average	Multiple managers
CONVERTIBLE BOND GROUP AVERAGE[2]	**9.5%**	**23.7%**						
Pacific Horizon Capital Income 800-332-3863	**13.7%**	29.4%	**$5**	4.50%	0.90%[5]	**236%**	Average	William Hensel
Concord Income Convertible 800-274-7866	**11.3%**	37.7%	**$7**	4.50%	2.50%	**26%**	Average	Richard B. Russell
Vanguard Convertible Securities 800-662-7447	**10.8%**	32.3%	**$60**	None	0.88%	**55%**	Above avg.	Rohit M. Desai
SBSF Convertible Securities 800-422-7273	**10.2%**	24.9%	**$30**	None	1.39%	**32%**	Below avg.	Louis R. Benzak
American Capital Harbor A 800-421-5666	**9.4%**	13.9%	**$385**	5.75%	0.89%	**71%**	Below avg.	James H. Behrmann
JUNK GROUP AVERAGE[2]	**2.5%**	**25.2%**						
Plymouth High-Yield 800-522-7297	**8.7%**	24.1%	**$44**	4.75%	1.10%	**103%**	Low	Margaret Eagle
Oppenheimer Champ. High Yield 800-525-7048	**7.0%**	20.2%	**$19**	4.75%	1.52%	**68%**	Low	Ralph Stellmacher
American High-Income 800-421-0180	**6.5%**	22.3%	**$285**	4.75%	1.00%	**44%**	Below avg.	R. Schotte, D. Barclay
Merrill Lynch Corp. High-Inc. B 800-637-3863	**6.3%**	29.0%	**$335**	4.00%[4]	1.40%	**40%**	Below avg.	V. Lathbury, A. Schwartz
Merrill Lynch Corp. High-Inc. A 800-637-3863	**6.1%**	29.6%	**$543**	4.00%	0.66%	**40%**	Below avg.	V. Lathbury, A. Schwartz
MORTGAGE BACKED GROUP AVERAGE[2]	**9.3%**	**8.0%**						
Managers Intermediate Mortgage 800-835-3879	**11.4%**	15.0%	**$167**	None	0.70%	**214%**	Below avg.	Worth Bruntjen
Vanguard Fixed Income GNMA 800-662-7447	**11.2%**	14.1%	**$5,298**	None	0.30%	**1%**	Average	Paul G. Sullivan
Lexington GNMA Income 800-526-0056	**10.8%**	13.2%	**$122**	None	1.06%	**146%**	Average	Denis Jamison
Benham GNMA Income 800-472-3389	**10.4%**	12.9%	**$703**	None	0.64%	**207%**	Below avg.	Randall Merk
T. Rowe Price GNMA 800-638-5660	**10.2%**	12.4%	**$735**	None	0.87%	**92%**	Average	Peter Van Dyke
TREASURY GROUP AVERAGE[2]	**10.2%**	**12.3%**						
Vanguard L-T U.S. Treasury 800-662-7447	**11.1%**	15.0%	**$893**	None	0.28%	**147%**	High	I. MacKinnon, A. Jiorle
Dreyfus U.S. Treasury L-T 800-645-6561	**11.0%**	15.5%	**$217**	None	0.02%	**31%**	Above avg.	Barbara Kenworthy
Stagecoach U.S. Govt. Allocation 800-237-8472	**10.0%**	11.9%	**$30**	4.50%	1.02%	**558%**	Average	Janice Deringer
Dreyfus U.S. Treas. Interm. 800-645-6561	**9.5%**	12.6%	**$183**	None	0.93%	**4%**	Average	Barbara Kenworthy
Benham Treasury Note 800-472-3389	**9.4%**	11.6%	**$302**	None	0.61%	**70%**	Below avg.	Jeff Tyler
MUNICIPAL GROUP AVERAGE[2]	**8.8%**	**7.6%**						
General Municipal Bond 800-645-6561	**11.2%**	14.6%	**$683**	None	0.92%[5]	**50%**	Average	Paul Disdier
Financial Tax-Free Inc. Shares 800-525-8085	**10.3%**	12.2%	**$248**	None	0.93%	**25%**	High	Bill Veronda
Vanguard Municipal Long-Term 800-662-7447	**10.1%**	12.9%	**$888**	None	0.25%	**62%**	High	I. MacKinnon, J. Jacobs
SAFECO Municipal Bond 800-426-6730	**9.7%**	13.6%	**$422**	None	0.55%	**31%**	Above avg.	Steve Bauer
Vanguard Municipal Interm. 800-662-7447	**9.6%**	12.0%	**$2,460**	None	0.25%	**27%**	Below avg.	I. MacKinnon, J. Jacobs
INTERNATIONAL GROUP AVERAGE[2]	**7.1%**	**5.7%**						
Van Eck World Income 800-221-2220	**10.6%**	9.8%	**$148**	4.75%	1.61%	**276%**	Above avg.	K.Buescher, D. Kenerson
Fidelity Global Bond 800-544-8888	**8.9%**	10.4%	**$184**	None	1.35%	**228%**	Above avg.	Judy Pagliuca
MFS Worldwide Governments 800-225-2606	**8.7%**	5.9%	**$292**	4.75%	1.70%	**220%**	High	Leslie J. Nanberg
Merrill Lynch Global B 800-637-3863	**8.6%**	7.6%	**$381**	4.00%[4]	1.81%	**160%**	High	David Walter
Merrill Lynch Global A 800-637-3863	**7.6%**	8.1%	**$21**	4.00%	1.03%	**160%**	High	David Walter

Performance is through December 1991 and net of annual expenses, brokerage costs, and sales loads; also net of taxes, assuming a 28% rate for capital gains and income distributions. [1]Average annual return for all funds tracked by Morningstar in each category. [3]Redemption fee. [4]Deferred sales charge, which declines over time. [5]Currently absorbed by the management company.

MANAGING FOR RECOVERY • UNENDING PRICE WARS • INSIDE TIME WARNER

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HEALTH CARE

BUILDING THE SYSTEM WE NEED

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MARCH 23, 1992 VOL. 125, NO. 6

FORTUNE

POLITICS & POLICY/COVER STORY

ABOVE: At a clinic near Boston, prescriptions can be ready in three minutes with the help of computers. Photo by Richard Howard.

COVER: Computer software and HMOs are building blocks of a superior American medical system. Illustration by Theo Rudnak.

Continuous quality improvement—doing it for less *and* doing it better—is now the hot concept in the better-run parts of the health industry. 46

LET'S *REALLY* CURE THE HEALTH SYSTEM 46

For all its life-saving miracles, the U.S. medical system is distressingly wasteful and managerially backward. Costs won't stop climbing, and some 36 million Americans have no health insurance. But by taking advantage of the growing public pressure for universal health coverage and putting market forces to work, the U.S. can turn this out-of-control sector into the envy of the world. FORTUNE prescribes a four-step remedy. *by Edmund Faltermayer*

THE ECONOMY

HOW TO MANAGE FOR RECOVERY 62

When it does come, it is likely to come with a rush. Companies are waiting for firm orders, not economic indicators, but those that have restructured since the last recession no longer have to gear up far in advance. They can react fast to the first signs of rising demand. *by Brian O'Reilly*

COMPETITION

WHY THE PRICE WARS NEVER END 68

Companies trapped with investments too big to write off are being forced to chase market share at all costs. For many, there is no escape in sight from dwindling margins. The only clear winners are consumers, who learn to expect ever lower prices. *by Bill Saporito*

MANAGING

AFTER THE COUP AT TIME WARNER 82

Jerry Levin, Steve Ross's new heir, got off to a strong start with employees and Wall Street. Now what will he do with the company—and its not-so-independent board? *by Ann M. Morrison*

TECHNOLOGY

HERE COMES THE PAYOFF FROM PCs 93

New network software lets brainstormers around a table all "talk" at once on their keyboards. The result: measurable productivity gains from desktop computing. *by David Kirkpatrick*

GROUPWARE CAN GET EVERYBODY IN A COMPANY INTO THE ACT 94

"Claudia's image is important to us no matter the cost. We can't break from her if she's free or if she costs us millions." 12

"We're getting enough signals to tell something is happening. We're almost at boom levels." 62

"It's not Economics 101. High demand and low supply do *not* always mean a higher price." 68

"When you have co-CEOs who disagree, it's like having no CEO." 82

"Humans on bicycles blew everything else away. I wanted Apple computers to be bicycles for the mind." 112

"The Japanese think strategically . . . Business is like warfare to them." 125

CORPORATE PERFORMANCE

WALGREEN: A HIGH-TECH Rx FOR PROFITS 106

Computers and scanners help make the largest drugstore chain in the U.S. one of the longest-running successes in retailing. What it may lack in low prices it makes up for by having your prescription on hand at 1,678 stores. *by Ronald Henkoff*

PROGRESSIVE: THE PRINCE OF SMART PRICING 107

Unlike most of its competitors, this auto insurer benefits from issuing policies to bad drivers and other undesirables. Its secret: knowing how to price its product by investing heavily in collecting and analyzing accident data. *by Joshua Mendes*

SHARP: FROM TECHNOLOGY TO MARKET—FIRST 108

Japan's electronics maverick figures out what consumers want, masters the technology, and molds it into products that even the most gadget-averse can't resist. *by Sally Solo*

COMPANIES TO WATCH 109

Tokos Medical Group finds a fertile niche in helping women monitor the course of risky pregnancies at home. *by Shelley Neumeier*

Also: Analytical Surveys and Value City.

HALL OF FAME

THE NATIONAL BUSINESS HALL OF FAME 112

They have battled a powerful ethos or an entrenched institution and prevailed: From MCI's monopoly-busting Bill McGowan to Wal-Mart's Sam Walton to Sears Roebuck's Julius Rosenwald and Richard Sears, this year's laureates are giant-killers. *by Peter Nulty*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12

Earnings nose-dive in Japan, turmoil in the executive suite, a $6 billion opportunity, second helpings for Drexel alumni, and more.

FORTUNE FORECAST 21

Understanding why long-term interest rates are so stubborn. *by Vivian Brownstein*

Economic Intelligence: Environmental zeal hurts growth—while growth helps the environment; and the economists strike back.

PERSONAL INVESTING 29

Can stocks keep rising? Yes, say technicians, a bull market is just what we've got. *by Susan E. Kuhn*

Also: Amdahl's amazing comeback, super payoffs from spinoffs, and Portfolio Talk with Fayez Sarofim of Houston.

LETTERS TO FORTUNE 41

FORTUNE PEOPLE 121

IBM and GE bosses get Spiderman boost, panned peer picks protégé, and more. *by Laurie Kretchmar*

BOOKS & IDEAS 125

Crichton's new thriller is a flawed economic call to arms against Japan. *by Carla Rapoport*

Also: Challenging Time. *by James D. Atwater*

KEEPING UP 131

Fat cats' bat stats, oppression in the classroom, and other matters. *by Daniel Seligman*

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EDITOR'S DESK

FORTUNE prides itself on tackling America's most pressing problems. In this issue we take on one of business's biggest headaches: the $800 billion health care mess. "Let's *Really* Cure the Health System," which begins on page 46, presents innovative strategies for turning the current flawed system into the world's most admired. Writer Edmund Faltermayer holds out considerable hope: "We can be the first industrial nation where market forces determine what's spent on health care, just as they determine what people spend on food, cars, and housing."

CARL RACO

Faltermayer and Berlin propose some innovative therapy.

This cover story is the culmination of Faltermayer's 22 years on the health care beat. In 1970 he published in FORTUNE one of the earliest major stories about HMOs. It helped pave the way for the passage of the first federal HMO act in 1972. Says Faltermayer: "Health care is a cause of mine. I am a soapbox journalist who believes there are some real cures for what ails us."

To find the solutions, Faltermayer and reporter Rosalind Berlin spent two months interviewing over 100 sources, including dozens of physicians, health care policy experts, representatives of health organizations and corporations, and employees. Says Richard Kirkland, who edited the article: "What distinguishes this story is that it is not just a policy piece; it discovers the best of what's going on among practitioners."

For example, Berlin spoke with employees at FORTUNE 500 companies who are participating in managed-care plans. Says she: "One frequent fear that people have about HMOs is that they won't be able to go to specialists. It was comforting to hear that in many cases members believed that they received a higher level of specialty care than they did with similar illnesses under their old medical plans." Berlin is no novice to the industry either. Her family tree is full of doctors, and this is her third story with Faltermayer.

The solutions in this article are particularly timely. Some 36 million Americans remain uninsured, and costs for businesses keep rising at a shockingly high rate. At last count there were over two dozen bills in Congress to reform the health care insurance system. Says Faltermayer, on his soapbox: "Things have gotten so bad that now we have a chance to do something good. It's particularly important in this election year as candidates prepare position papers that FORTUNE have something on the table."

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October, by The Time Inc. Magazine Company. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Joseph A. Ripp, Treasurer; Mary M. Johnston, Secretary. Subscriptions: U.S., possessions, one year $27 issues, $50 two years, one year $27 issues, $53 Canada, one year $27 issues, $53 FX. Second class postage paid at New York, NY, and at additional mailing offices. Authorized as second class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer inquiries: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000.
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The Time Inc. Magazine Company GST #R122781974.

EARNINGS NOSE-DIVE IN NIPPON

■ Japan Inc.'s record nonstop economic growth—the Heisei boom, named for the era of current Emperor Akihito and dating from December 1986—may be over. Industrial production is down 4% from last year, inventory is up 12%, and many of the country's corporate giants—including **Nippon Steel** and semiconductor manufacturers like **Toshiba**—are facing their weakest earnings since fiscal 1987. **Sony** is even forecasting a $156 million loss for its businesses in Japan, the first ever. Several other consumer electronics companies have announced big drops in their pretax earnings from worldwide operations for the 12 months ending March 31. That's when most Japanese companies end their fiscal year.

Japan's auto industry is also hurting. **Toyota Motor** has reported that it expects a 30% drop in pretax profits of its domestic operations, to $3.1 billion. Says Toyota executive VP Shohei Kurihara: "Americans may be discussing how the U.S. economy has declined relative to Japan's, but I think the Japanese economy isn't very healthy." Of course, Toyota and other automakers are still exploring new foreign markets (see following story).

Japanese corporations blame their profit declines partly on a stronger yen. They also say fierce price wars among themselves and with foreign manufacturers created sluggish sales. Sony's worldwide revenues, for example, rose just 5% to $30 billion.

Most Japanese companies are also stuck with high depreciation costs linked to a 64% nationwide increase in corporate capital investments over the past four years. Sony plans to reduce such spending by 36% to $2.2 billion next year, and other companies may try a similar strategy. Says Yoichi Tazawa of Nomura Research Institute: "The Japanese economy has been expanding beyond its means." Like others, Tazawa still expects some kind of recovery in the corporate sector by the end of 1992.

Not all companies are doing as badly. Among consumer electronics manufacturers, **Sharp** seems to be holding its own (for more, see Corporate Performance). – **Emily Thornton**

JAPANESE CARS INVADE ISRAEL

■ Whatever their image problems in the U.S., Japan's automakers need more customers and are speeding on to other frontiers. Their latest target: Israel. **Toyota Motor**, **Mazda**, **Daihatsu**, and **Suzuki** opened showrooms last year, joining **Honda** and **Mitsubishi**. Now **Isuzu** and **Nissan** are eyeing the market.

Oil-hungry Japan Inc. has been cautious about doing business with Israel since Arab petroleum suppliers temporarily stopped exporting to pro-Israel countries in the 1970s. A company that didn't duck for cover: **Fuji Heavy Industries**' Subaru car division, which exported to Israel despite the risks. As a result Subaru has some 30% of Israel's market.

The Japanese automakers' next foreign target? Predicts Keith Donaldson, Asia auto analyst for Salomon Brothers in Tokyo: a post-apartheid South Africa. – **E.T.**

A Tel Aviv showroom: sorry, no word on whether an armed customer gets a better deal

RECESSION-PROOF SUPERMODELS

■ While the rest of the world has been slogging through a recession, an elite group of women including Naomi Campbell, Cindy Crawford, Linda Evangelista, Christy Turlington, and Claudia Schiffer have proved immune to the downturn. These supermodels charge—and get—$10,000 a day and more. In advertising, says Monique Pillard, president of Elite modeling agency, which represents Crawford and Evangelista: "Supermodels are taking the place of movie stars because they're more accessible and more real to the public." Say what?

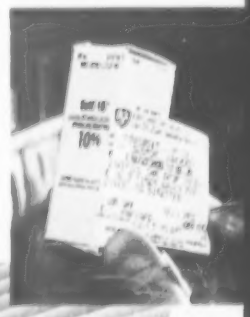
It helps that some supermodels become famous in their own right. Schiffer, back again on

LET'S *REALLY* CURE THE HEALTH SYSTEM

By seizing on the momentum for universal health coverage and putting market forces to work, the U.S. can turn an out-of-control sector into the envy of the world. ■ *by Edmund Faltermayer*

WHAT'S WRONG with U.S. health care? Angry voters and anxious politicians in this presidential election year are fingering two villains—costs that won't stop climbing and an insurance system that leaves 36 million Americans without coverage. But a third, though it gets less attention, is arguably the most important: For all its lifesaving miracles, most of the $800-billion-a-year U.S. medical system is as wasteful and managerially backward as Detroit before Henry Ford. The country's best hope for insuring everyone while keeping overall health spending within reason is to harness the growing public pressure for reform to a plan that could transform this flawed system into the Toyota City of world health care.

Only market forces, which drive and discipline most other sectors of the economy, can bring about this industrial revolution. Having faith that the market can curb total medical spending is like believing in heavier-than-air flying machines before Kitty Hawk, since no major country has relied exclusively on competition. It's also true that this new machine will fly only by forcing big changes upon patients, doctors, insurers, and bureaucrats. The model that FORTUNE favors would require nearly every American to enroll in a health maintenance organization (HMO) or a similar managed-care plan. These limit a patient's choice of doctor and hospital, though a growing number allow patients to go outside the network by paying extra.



On the frontier: Computers, like those at a Harvard Community Health Plan clinic near Boston, help Dr. Max Walten treat Caroline Abbot and order a prescription for her eye infection. It's ready within three minutes, complete with a computer-printed label (right).

But the present system is clearly unsustainable. Under traditional fee-for-service health insurance plans, doctors and hospitals, which patients are free to choose, get paid no matter how many services and tests they perform. That kind of economic rocket engine has propelled health spending from 7.3% of GNP in 1970 to a projected 13.4% in 1992. U.S. business's share of this bill—$186 billion in 1990—now exceeds its combined after-tax profits.

To keep the current system from crashing, the only alternative to market-based reform is to impose more controls. The two government-financed programs, Medicaid for the poor and Medicare for those 65 or over, already impose price ceilings—including a new 7,000-item revision in what doctors can charge for treating the elderly. With imperfect success, other countries with universal health coverage attempt to keep a lid on total expenditures through price fixing, spending caps, or a budgeting process like Canada's, in which provinces and the national government appropriate sums to reimburse providers. Some of the health reform plans proposed by congressional Democrats call for ceilings of one kind or another (see table).

By embracing controls at a time when the former Soviet Union is turning to the free market, the world's seventh-largest "economy"—the U.S. health care system—would be taking the Gosplan route. To some, greater government control is inevitable. How, they ask, can doctors and hospitals go on providing bone marrow transplants at $150,000 and intensive care for drug-damaged premature babies without Washington's limiting prices or setting up a rationing system?

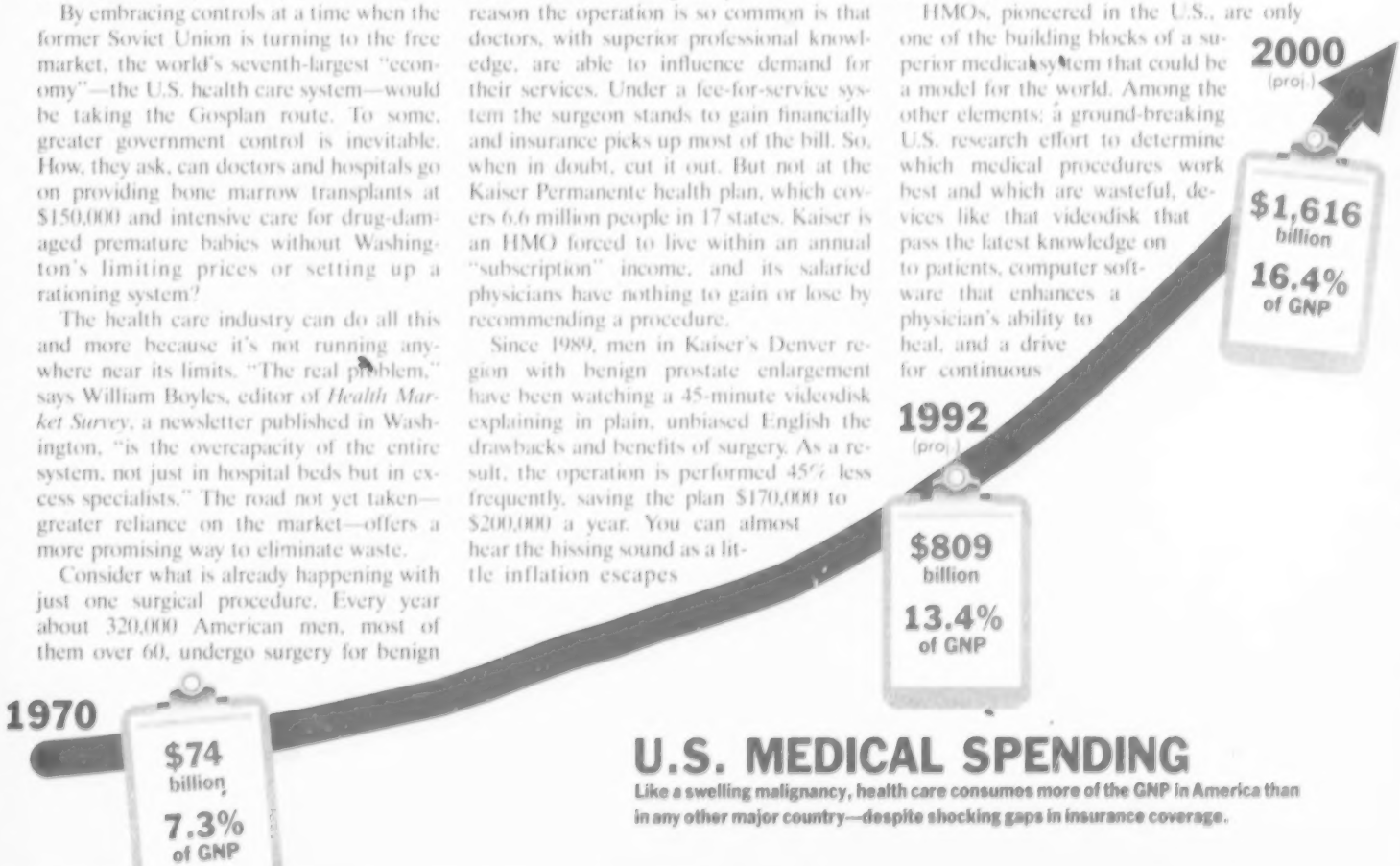
The health care industry can do all this and more because it's not running anywhere near its limits. "The real problem," says William Boyles, editor of *Health Market Survey*, a newsletter published in Washington, "is the overcapacity of the entire system, not just in hospital beds but in excess specialists." The road not yet taken—greater reliance on the market—offers a more promising way to eliminate waste.

Consider what is already happening with just one surgical procedure. Every year about 320,000 American men, most of them over 60, undergo surgery for benign enlargement of the prostate. This can easily cost $4,000, including hospital bills. One reason the operation is so common is that doctors, with superior professional knowledge, are able to influence demand for their services. Under a fee-for-service system the surgeon stands to gain financially and insurance picks up most of the bill. So, when in doubt, cut it out. But not at the Kaiser Permanente health plan, which covers 6.6 million people in 17 states. Kaiser is an HMO forced to live within an annual "subscription" income, and its salaried physicians have nothing to gain or lose by recommending a procedure.

Since 1989, men in Kaiser's Denver region with benign prostate enlargement have been watching a 45-minute videodisk explaining in plain, unbiased English the drawbacks and benefits of surgery. As a result, the operation is performed 45% less frequently, saving the plan $170,000 to $200,000 a year. You can almost hear the hissing sound as a little inflation escapes from the swollen balloon of American medical care.

HMOs, pioneered in the U.S., are only one of the building blocks of a superior medical system that could be a model for the world. Among the other elements: a ground-breaking U.S. research effort to determine which medical procedures work best and which are wasteful, devices like that videodisk that pass the latest knowledge on to patients, computer software that enhances a physician's ability to heal, and a drive for continuous

This computer at an Intermountain Health Care hospital in Salt Lake City delivers instant advice to an intensive care team. It may have saved MaRee Sullivan from ARDS, a deadly respiratory illness.



U.S. MEDICAL SPENDING

Like a swelling malignancy, health care consumes more of the GNP in America than in any other major country—despite shocking gaps in insurance coverage.

Doctors often forget about patients after treatment. Not orthopedist Jay Butler of Portland, Oregon, who checks Wilbur Jansen a year after a hip replacement as part of an effort to improve the procedure.

quality improvement. What's missing are the essential ingredients that would hasten the adoption of all that's being learned—bold policy changes aimed at fostering pervasive competition.

Here's a closer look at four strategies that together could cure U.S. health care:

■ **Find out what works.** In its latest annual report, the Harvard Community Health Plan, a Massachusetts HMO, observes that "as few as a third" of all medical ministrations—drugs, surgery, tests—have been shown scientifically to help cure disease or preserve health. Doctors aren't stupid, and many of the other remedies may indeed be effective. But rigorous proof is missing. "The information base for medical practice is extremely poor," declares Dr. David Eddy, a leading critic of that base. One sign, he says, is that your chances of getting a particular operation vary greatly from place to place. In one four-state survey, the frequency of heart bypass operations varied by a factor of three.

Prodded by employers frustrated over rising costs, insurance companies have tried to curb excesses through "utilization review." Computerized claims-review programs spot doctors whose tests and procedures deviate from observed patterns. Despite some successes, utilization review doesn't get to the heart of the problem. Only doctors can figure out better ways to treat patients. Partly in the hope of heading off further ham-handed controls, the medical profession is swinging behind what Eddy calls "an intellectual revolution" to clear up the uncertainties.

One way is through "outcomes management," a concept pioneered by Dr. Paul Ellwood and InterStudy, the Minneapolis research organization he heads. Ellwood believes the whole health system needs a "unified scorekeeping system." One day, he hopes, computer databanks will medically track everyone in the population, both at the time of treatment and afterward, to see which treatments are best for the patient in the long run.

Over the past four years, InterStudy and others have been testing standardized "score cards" for charting patients through 16 illnesses—among them diabetes, cataracts, and hypertension—and nine more are in the works. For each illness, doctors put down clinical information at the time of the encounter with the patient and later on. All patients, when getting treatment and afterward, fill out a general "health-status questionnaire."

Twenty thousand patients in 23 states have completed the form to date. Sample question: "Does your health limit you in climbing several flights of stairs?" The patient marks one of three boxes ranging from "a lot" to "not at all." The theory is that people's perceptions of their own health give clues that traditional doctor's questions may miss. Each disease, it has been found, leaves its own fingerprint in the pattern of answers, and the questionnaire can help *predict* illness.

For three years Dr. Jay Butler of St. Vincent's Hospital in Portland, Oregon, has been accumulating outcomes-management data on the hip replacements he performs. Follow-up visits by patients, he says, are giving him answers to such questions as "What's my batting average?" and "Am I doing it to the right people?" He's already decided that a high-tech ceramic coating, designed to speed the bonding of the artificial device to the patient's bones, isn't worth the potential bone erosion and the hundreds of extra dollars it costs. Other payoffs will come when outcomes-management data are shared over large regions. Minneapolis's Park Nicollet Medical Center is one of six clinics around the country that have just begun to swap outcomes data on hip replacement.

The government is financing another ambitious effort by doctors to cut down on guesswork. Only three years old, the Agency for Health Care Policy and Research, or AHCPR (pronounced "ak-par"), has a budget of $67 million a year for studying the appropriateness of treatments—far more than Washington used to spend.

AHCPR is financing 12 "patient outcomes research teams," or PORTs, that aim to get at the truth on alternative ways to deal with coronary artery disease, gallstones, pneumonia, diabetes, and pain in

REPORTER ASSOCIATE *Rosalind Klein Berlin*

the lower back , among others. Relying on a huge, 20-year-old database from Duke University's hospital and other records, the PORT on coronary artery disease hopes to be able to estimate, with considerable precision, the survival rates and cost-effectiveness of the remedies—heart bypass operations, balloon angioplasty, and medication—for this big-ticket illness.

Most of the PORTs' findings are several years off. But Dr. John Wennberg, who drummed up much of the support for AHCPR's creation, believes its efforts will produce "a leaner, trimmer health care economy." Wennberg, who heads Dartmouth University's Center for Evaluative Clinical Sciences, discovered in the early 1980s that Boston was spending the equivalent of 16% of local GNP on health care while New Haven, Connecticut, was spending only 9%, with no difference in the two populations' health. Outcomes research can't rationalize all medical care, Wennberg says. But it can create "islands of rationality in a sea of uncertainty and supplier-induced demand."

Low back pain, the No. 2 reason for physician visits after colds, needs all the rationality it can get. Medical spending to alleviate this torment totals about $24 billion a year, four times the cost of AIDS treatment. Much of the money is wasted; a mid-1980s study of Medicare patients found that 71% of nonsurgical hospitalizations for this affliction were unnecessary. Practice patterns vary wildly, especially for the most expensive form of surgery, in which two vertebrae are joined in a spinal fusion at $15,000 or so. In 1986 the operation was nine times as common in the West as in the Northeast, and it varies sevenfold by county just within the state of Washington.

Fertile territory, all right, for a PORT headed by the University of Washington's Dr. Richard Deyo. In the mid-1980s, Deyo and his colleagues punctured the age-old belief in long bed rest as a cure—good news for employers, who lose when workers stay home. Comparing two groups of patients who spent two and seven days in bed, respectively, Deyo found identical outcomes in terms of pain relief and return to normal function.

One issue the PORT is addressing, with the help of Medicare claims and hospital discharge data for thousands of cases, is the relative merit of spinal fusion vs. simpler back surgery, such as the partial removal of a disk. Fusion operations, according to Deyo, turn out to have complications twice as frequently as simpler surgery. One widely used argument for fusion, that it lessens the need for later operations, is not holding up. The claims data, Deyo says, show that those who get fused are "at least as likely" to have future problems.

■ **Inform the patient.** How many citizens whose backs are killing them might forgo the operation, and save the system money, if they knew this? Before long, some will. A videodisk on low back pain is scheduled to start appearing in doctor's offices this fall, along with one for women with early-stage breast cancer, another on mild hypertension, and an update of the prostate video. The programs are the brainchild of John Wennberg and his colleagues. Wennberg serves as vice chairman of their producer, the nonprofit Foundation for Informed Medical Decision Making, on the edge of the Dartmouth campus.

These videodisks are worlds ahead of the educational videotapes that have cropped

FIVE PATHS TO UNIVERSAL HEALTH INSURANCE

PLAN	HOW IT WORKS	WHO'S FOR IT	HOW IT WOULD LIMIT COSTS
Canadian-style system	A tax-supported, government-run system would pay all medical bills	Sixty-six Democratic Congressmen—and one Republican—led by Representative Russo (D-Illinois)	Government budgeting process
Play or pay	Employers would have to provide minimum health coverage or pay new taxes to finance a government-run plan	Democratic Senate leadership (Mitchell bill); Representative Rostenkowski in House	Payers and providers negotiate prices within national guidelines (Mitchell); government gradually limits rise in health spending to GNP growth rate (Rostenkowski)
President Bush's health plan	Tax credits up to $3,750 a year for low-income families and deductions for the middle class would help many of the uninsured buy basic health insurance	Bush Administration	Find offsetting efficiencies throughout the health care system
Consumer choice	Individuals would be required to buy health insurance on their own or through employers, paying with a proposed tax credit	Heritage Foundation	Market forces: comparison shopping by individuals
Managed competition	Employers would have to offer —and workers would have to join—one of several comprehensive, accountable health plans	Jackson Hole Group of health industry experts and executives	Market forces: comparison shopping by individuals from plans screened by employers or other intermediaries

up in some doctors' offices. The foundation, supported mainly by private grants, is the main vehicle for informing patients about outcomes research, which Wennberg believes should be disseminated promptly. Another innovation is the interactive videodisk format. This allows the patient, by pointing a mouse or touching a screen menu, to get information tailored to his or her symptoms and to skip or repeat.

Informed by watching the program, the patient is able to participate in what Wennberg calls "the shared-decision model." His premise is that in many nonemergency situations, the course of action should reflect the patient's preferences as well as the doctor's leanings. "Several very good studies," says the narrator of the forthcoming videodisk on early breast cancer, show that mastectomy and breast-sparing surgery combined with radiation "offer an equal chance of survival." But, she adds, "making the best choice involves deciding what *you* feel is important or acceptable." Women who chose the different options come on screen and explain why they're glad they did.

With low back pain, only the victim who feels it can decide whether a drastic remedy is called for. The narrator of this program is Dr. Albert Mulley Jr., chief of general internal medicine at Massachusetts General Hospital and a longtime Wennberg collaborator. Mulley begins by saying, "There are no simple and quick fixes for back pain. But there are many treatment options." For a herniated disk, the most common cause of back pain, the choices are various kinds of surgery and nonsurgical therapy.

"The problem usually gets better without surgery," Mulley says. A man who decided against it appears. "I think my future is looking brighter and brighter every day," he says. Not so a woman who felt she could not live another day without an operation: "I couldn't get up. I couldn't move. All I remember is being unable to function at all."

If surgery appears unavoidable, Mulley says, "the best evidence suggests that fusion is rarely necessary or helpful for people whose main problem is a herniated disk." Viewers inclined toward nonsurgical therapy can get information on anti-inflammatory medication and exercise. "It is possible to enjoy sexual activity even with back problems," the videodisk reports, offering sketches of suggested positions for those who want to see them.

Panels of physicians review the videodisks to ensure that they present the information fairly. "We want to bootstrap our way to 25 or 30 programs in the next three years," says Joseph Kasper, the producing foundation's CEO. Blue Cross is so intrigued by the prostate program that it plans a test in which it would pay doctors and medical groups $50 for each showing in lieu of a costlier second opinion. "Actually," says Kasper, "the disk *is* a second opinion—the patient's."

A videodisk expected late this year on low back pain will educate patients so they needn't be cowed into agreeing to surgery.

■ **Do it right.** The secret is out. The emphasis on quality is not uniform throughout the medical system. Mortality rates between hospitals, and individual surgeons, vary a lot even allowing for the severity of the case mix. Continuous quality improvement—doing it for less *and* doing it better—is now the hot concept in the better-run parts of the health industry. In pursuing it, providers are relying heavily on what the industry has long avoided except for sending out bills—the computer.

To see the future, visit the Harvard Community Health Plan's stunning new outpatient center in Burlington, Massachusetts. It's the first of many centers that will use software developed by InterPractice Systems, jointly owned by the HMO and GM's Electronic Data Systems. By pointing and clicking at a computer screen, the doctor can call up your records and interrogate them. How many times have you previously been in for an ear infection? With another click, the doctor can order pills that will be ready within three minutes at the center's pharmacy in a bottle with a computer-printed label—but only if the electronic record knows of no allergies or other reasons why you shouldn't take them.

Dr. Max Walten, 53, a pediatrician and longtime technophobe, needed 24 hours of training to master the computer. Now he loves it. "I don't have to put up with a partner's illegible handwriting or missing charts," he says. Down the road, computers could save considerable physician time. A hundred terminals have been installed experimentally in Burlington homes, where people who are not feeling well can explain their symptoms by answering questions that appear on a screen. If the symptoms are serious, the computer will arrange for a doctor to telephone or will tell the staff to schedule an appointment. But if the patient has a common cold, it will tell him how to treat it himself, eliminating some of the 25% to 44% of office visits that are medically unnecessary.

Quality is an obsession at Intermountain Health Care (IHC) of Salt Lake City, a chain of hospitals divested by the Mormon Church in 1975. Dr. Brent James, executive director of IHC's Institute for Health Care Delivery Research, peppers his talk with names like quality guru Philip Crosby and terms like "benchmarking." The chain zealously measures quality deviations and cajoles physicians to eliminate them. James asserts that 25% to 35% of health expenditures are "quality waste," which means fixing things because you couldn't do it right the first time.

To reduce deep-wound infections following surgery, which typically add $14,000 to a hospital bill and sometimes kill people, IHC turned to its bedside HELP computer. Developed over two decades and incorporating expert systems, it is marketed by 3M. With HELP's help, researchers at the chain's flagship LDS Hospital figured out an optimum time to administer antibiotics

before elective surgery, and the computer now alerts the staff at the right moment. Result: The postoperative infection rate fell in one year from 1.8% to 0.9%, less than half the national average, and has since dropped to 0.4%.

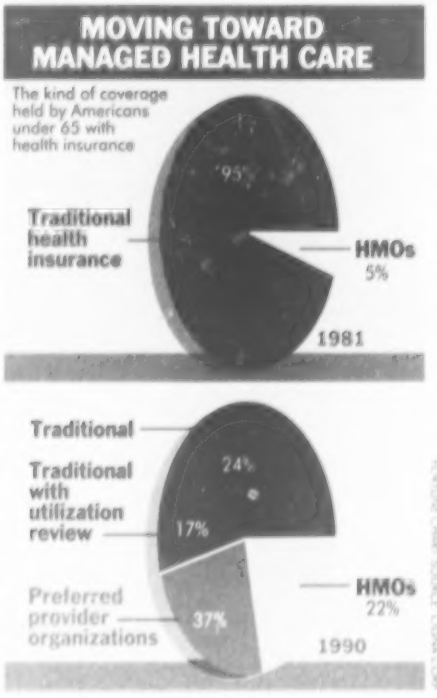
In an intensive care unit, computers have unusual potential to save lives. Hundreds of variables must be continually evaluated when a patient is brought in with adult respiratory distress syndrome (ARDS), which results when the lungs fill with water as a result, say, of a severe injury or pneumonia. Dr. Alan Morris, director of research at LDS Hospital's pulmonary division, says it's a daunting task for "a mere mortal" to assimilate all these variables, such as various blood gases and breathing characteristics, and keep making the right clinical decisions. The normal treatment is to force oxygen into a patient's lungs with a mechanical ventilator. In severe ARDS cases, only about 12% leave the hospital alive.

Deciding to substitute consensus for imprecise judgment, a committee labored two years to develop an elaborate ARDS treatment protocol with 35 pages of flow diagrams. These were put into HELP, which speedily reacts to changes in variables by issuing a stream of new instructions, such as "change oxygen content from 50% to 60%." Physicians sometimes have reasons to override the protocol, but compliance is high. The biggest surprise is a more than threefold increase in the survival rate for victims with severe ARDS, to 42%.

Until a randomized trial of the computer protocol is completed at a hospital in another state, Morris hesitates to proclaim a breakthrough. But on the basis of its success, LDS has already decided to keep using the ventilator instead of switching to an expensive, highly touted Italian heart-lung machine, which saved no more lives when it was tested against the older device.

■ **Unleash incentives.** Not all hospital chains have IHC's dedication to quality care at reasonable prices, which just happens to dovetail with its determination to hang on to its market share in the areas it serves. "We compete like mad," says James. HMOs have built-in incentives to watch costs. Thus, it is no accident that these prepaid plans, including Group Health Cooperative of Puget Sound as well as Kaiser Permanente, have welcomed the chance to show a prostate video that deters excessive surgery.

Eliminating the unnecessary is a way of life at Kaiser, America's biggest HMO. The plan's Denver region has found that 34% of people who get uncomplicated appendectomies—those who recover quickly and don't need shots for pain control—can be sent home within 24 hours. Kaiser's Southern California region plans to gradually build a data system costing $100 million or so that will enhance its ability to weigh the cost-effectiveness of procedures. The possibilities, says Eddy, who serves as a consultant, are "fabulous." While avoiding waste, Kaiser doesn't slight quality. Its San Francisco hospital is one of the safest places in California to have a coronary bypass.



Traditional fee-for-service health insurance, increasingly subject to scrutiny, is losing ground to tightly managed HMOs and preferred-provider organizations that offer discounted fees.

These examples of good incentives at work, alas, are overwhelmed by the perverse forces that keep pushing up the nation's health bill. The market can't get the situation under control, says the National Leadership Coalition for Health Care Reform, a nonpartisan group whose members include corporations, unions, health care professionals, and consumers. Under the coalition's play-or-pay health proposal, a board with government and private members would set a national spending target and establish uniform rates for services in order to slow the growth in health care spending to that of the GNP.

One of the troubles with expenditure targets, says Bernard Tresnowski, president of the Blue Cross & Blue Shield Association, is that "there's no infrastructure in place" to enforce them. Besides, market forces have already been shown to work. Newsletter editor Boyles says that the average HMO premium, smaller to begin with, will increase 11% in 1992, compared with 18% for fee-for-service plans. HMOs, whose total membership has quadrupled in the past decade to 38 million, exert some downward pull on prices when they reach a significant percentage of the market. Despite that salutary effect, HMOs and their kin won't ever hold total U.S. health spending in check as long as traditional insurance prevails.

What's needed is a system that combines increased competition among health care plans with greater incentives for individuals to seek one that minimizes the effect on their pocketbooks. One solution, proffered by the Heritage Foundation, a conservative Washington, D.C., think tank, would be to hand citizens money in the form of government tax credits and then turn them loose to comparison-shop for the best coverage.

The trouble with that kind of system, says Alain Enthoven, a professor at the Stanford business school and one of the leading experts on health care policy, is that "naked, unaided consumers" are unable to absorb the fine print in a welter of differing plans. Some insurers, he adds, are all too adept at "risk selection," or fashioning their policies to attract the young and healthy while avoiding the old and sick. Enthoven favors a much more structured approach, which he calls "managed competition." He would rely on sophisticated intermediaries, such as a FORTUNE 500 company buying for its employees, to winnow the offerings to a handful of deserving choices.

Managed competition is one of the key principles of an ambitious blueprint for reform that has emerged from two years of Wyoming meetings by a group of health care experts and executives. With the Tetons as a backdrop, what's known as the Jackson Hole Group has come up with a set of proposed policies called "The 21st Century American Health System."

Under the proposals, which Enthoven helped draft along with Ellwood of InterStudy and Lynn Etheredge, a Washington health care consultant, the federal govern-

ment would narrow the variation in health plans by putting conditions on the tax exclusion employees now get for employer-paid insurance premiums. At present this tax break, which costs the U.S. Treasury $48 billion a year, comes with no strings attached. "It's insane," says Etheredge. "The government is pouring out that money mainly to subsidize insurers who write blank checks."

"The government is pouring out money to subsidize insurers who write blank checks."

If the Jackson Hole Group had its way, the tax break would be available only for services provided by "accountable health partnerships," a term for HMO-like networks and others able to prove their ability to control costs and provide quality care. Moreover, the exclusion would cover only a package of "uniform effective health benefits"—those deemed part of essential coverage and known to work. Small companies would get the same rates as big corporations by buying jointly through newly created "health insurance purchasing corporations."

The beauty of the Jackson Hole plan is that it calls for no big new government spending program. Money saved by capping the tax exclusion would help subsidize coverage for the uninsured and the unemployed, which could be provided within a few years. Most of the needed regulation would take place outside government. Acting on their own, or in response to federal legislation if a prod were needed, consumers, insurers, health care providers, and employers would create three standards-setting boards. The boards would issue ground rules for insurers, assess the medical arts to determine annually what goes into the package of "uniform effective health benefits," and establish "generally accepted practices" for tracking the results of medical care.

Only one new government agency would be needed, a National Health Board that would register health partnerships that follow the "generally accepted practices." It would also oversee the industry panel that sets health accountability standards, much as the SEC looks over the shoulders of the Financial Accounting Standards Board.

This blueprint is miles beyond what's proposed in the new health plan of the Bush Administration, which rejected the idea of limiting the tax break as too controversial in an election year. While calling for the enrollment of more Medicare and Medicaid beneficiaries in prepaid plans, the Bush proposal would allow a large amount of wastefully run health care to continue in the private sector.

Jackson Hole would put virtually the entire population in accountable, cost-constrained plans. The entire set of reforms would take about a decade, though many of the changes could occur incrementally. And if you live in an area where good HMOs are scarce, don't worry; a forced march toward managed competition would provide growth opportunities for HMOs that measure up.

Until an ideal system is created, business can do a lot more than wail about soaring health benefits. Heads of big companies, who have passed up the chance to participate in forums like Jackson Hole, can climb aboard the reform bandwagon. When it comes to health care, says Ellwood, "there's no CEO spokesperson for business and no consensus among business people." The top brass pay scant attention even to their own company programs. A typical benefits manager rarely sees the CEO, says Joseph Duva, who focuses on managed health care as a partner with Ernst & Young. When he does, "he has to talk in sound bites."

On health care, says an expert, "there's no CEO spokesperson for business."

Companies are banding together in a few cities to query hospitals on outcomes and quality, in the hope of getting more value for all the money they are spending. In a precedent-setting effort at the national level, a consortium of 11 corporations—among them General Electric, AT&T, Procter & Gamble, and Marriott—is going beyond mere bill paying to delve into the way health care is provided. Working with insurers, HMOs, and the IHC hospital chain, the companies are conducting a six-month pilot study to see what can be learned from data on patients with asthma and angina, the chest pain that can lead to a coronary bypass. If the pilot is successful, says William Goss, head of managed-care programs at GE, a full-scale effort will follow. In the case of asthma, he says, the consortium hopes to answer such questions as "How can we build a better protocol?" and "How can we catch the symptoms sooner?"

MERELY BY SPENDING their health care dollars creatively, companies can nudge the system into the future as Xerox is doing. In addition to traditional insurance plans, the company tries to offer at least two good HMOs at every major employment site, and has engaged six HMO companies to do "hands-on, close-up evaluation" of what's available.

To put meaning in comparison shopping, Xerox gears its contributions to a "benchmark" HMO whose price is the lowest consistent with quality. For employees who pick this HMO, the company pays all but $12 a month for a family. If an employee picks a plan costing, say, $75 a month more, he bears the entire extra cost. So far, the percentage of Xerox employees in HMOs has risen to 59%, and benefits director Patricia Nazemetz says there's been a "migration" toward the lower-price plans. The pricing policy is based on a similar one at Stanford University, where Enthoven runs the health program. Competition goes on at two levels—the employer shopping for HMOs and the employee choosing from the narrowed menu.

That's far preferable to the dubious path some companies are taking, which is to corral all workers into one health plan. Under that approach, says Dr. David Lawrence, CEO of the Kaiser plan's parent foundation, "a single provider is able to hold the company hostage." It takes alternatives to keep HMOs efficient—and caring—and a "point of service" option, which allows employees to see doctors outside the network, should not be the only escape hatch. Once a year, those who are dissatisfied should be able to switch to another plan. If market forces are to work in health care, fear is essential—the fear that the customer might take his business elsewhere. F

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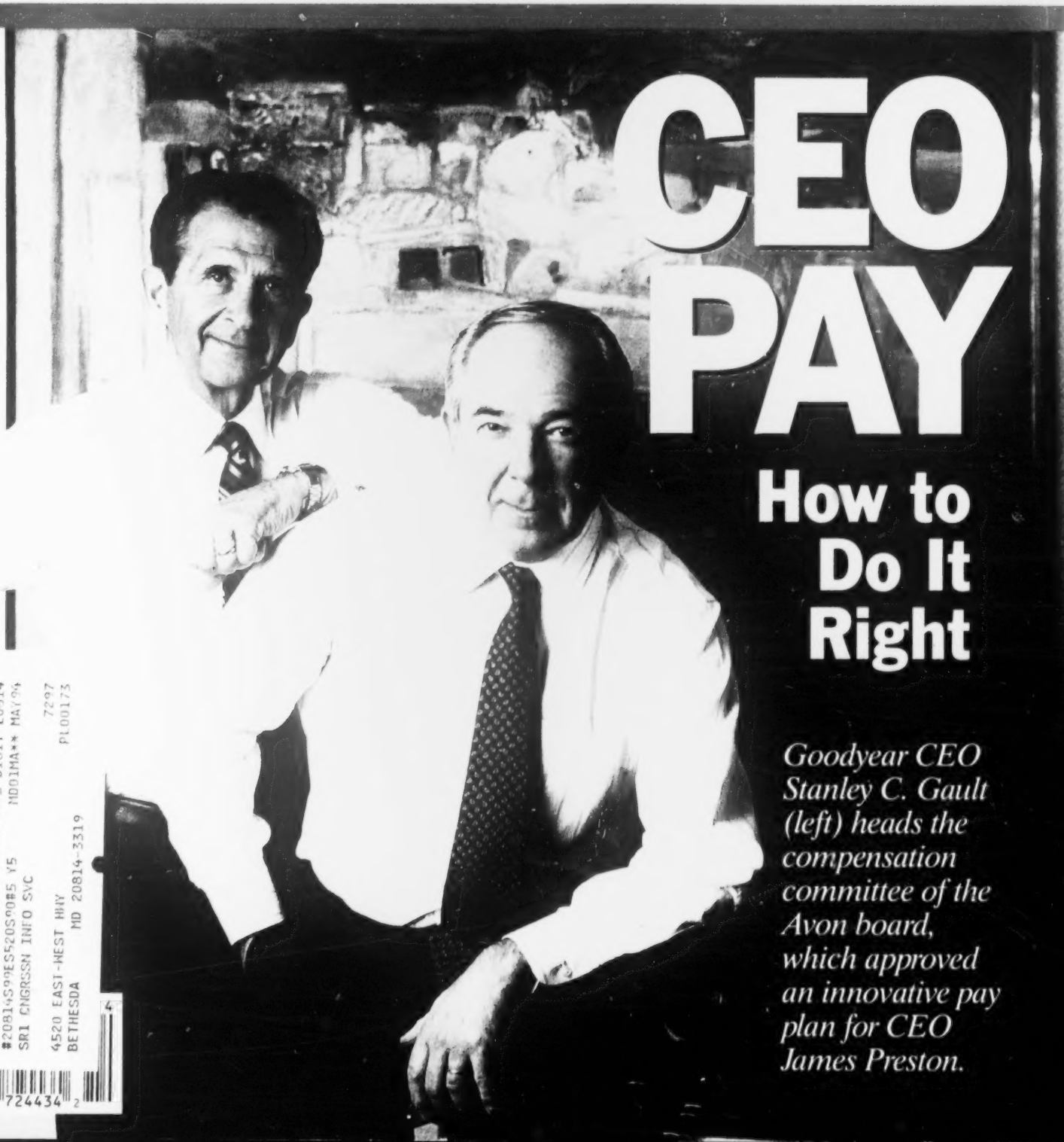

CEO PAY

How to Do It Right

Goodyear CEO Stanley C. Gault (left) heads the compensation committee of the Avon board, which approved an innovative pay plan for CEO James Preston.

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APRIL 6, 1992 VOL. 125, NO. 7

FORTUNE

"I have an incredibly vested interest in shareholder value. My focus is on making myself and thousands of others wealthy." 60

MANAGING/COVER STORIES

ABOVE: Stanley Gault and James Preston are two CEOs who have aligned their interests with those of shareholders. Photo by Hans Neleman.

COVER: Neleman found Gault and Preston at a board meeting at Avon's corporate headquarters in New York City.

HOW TO PAY THE CEO RIGHT 60
As their compensation gallops relentlessly upward, America's corporate brass are feeling the heat of public outrage. Look for politicians to play up the issue in the primaries and beyond. If CEOs can't devise plans that link pay to performance, Washington may take a whack at it. *by Geoffrey Colvin*

STILL MAKING OUT ON WALL STREET 71
The roaring market has 'em pulling down seven figures again. *by Ford S. Worthy*

THE ECONOMY

A BOOM AHEAD IN COMPANY PROFITS 76
After years of trimming costs, American manufacturers are poised to begin generating big earnings gains—whether the economy really takes off or not. *by Shawn Tully*

CORPORATE PERFORMANCE

CAN THE NEW CEO KEEP PHILIP MORRIS GROWING? 86
Mike Miles rode into Marlboro Country with a charge to continue improving profits 20% a year. But consumers are resisting high-priced cigarettes, and the Kraft cheese business has gone soft. The new chief executive is dealing with some surprising problems. *by Patricia Sellers*

COOPER TIRE & RUBBER: NOW HEAR THIS, JACK WELCH! 94
Welch wants GE to be No. 1 or 2 in all businesses. Cooper ranks No. 9 in tires. Guess which company treats shareholders better. *by Alex Taylor III*

AMGEN: HOW TO KEEP THAT FAMILY FEELING 95
Doubling its work force every two years, this highflier keeps a small-company atmosphere by managing with teams. *by Andrew Erdman*

LUXOTTICA GROUP: CUTTING OUT THE MIDDLEMAN 96
They call the boss Mr. Nobody. He's worth close to $1 billion. Here's how he works. *by Bill Saporito*

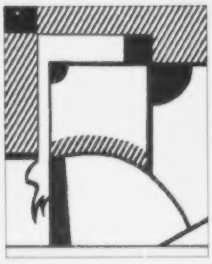
COMPANIES TO WATCH 97
Vitesse Semiconductor's gallium arsenide chips are starting to pay off as they outperform silicon. Also: Input/Output and Health Management Associates. *by Shelley Neumeier*

"Buy the suitcases, but don't pack them yet." 12

"I say to managers that once I've had a chance to put my 2 cents in, do what you want." 86

"We grow our talent and we motivate them. The non-performer leaves us very quick—we see to that." 94

"It's important to restore middle-class people's faith in the fairness of the tax code." 102



"Forget the market and go after what you're passionate about. Don't buy just for financial reasons." 112

"Readers may realize that not all Japanese businessmen are calculating machines with arms and legs." 118

BANKING

BANKING FINALLY HITS THE BOTTOM 98

Mistakes in real estate will continue to haunt the industry for years, so don't look for a dramatic turnaround. But problem loans are peaking, capital is up, and so are reserves. *by Gary Hector*

POLITICS & POLICY

WHAT'S NEXT FOR THE DEMOCRATS 102

With the field sharply narrowed, here's where the top contenders stand on the issues. The winner? U.S. business. This is the party's most pro-growth field in years. *by Ann Reilly Dowd*

TECHNOLOGY

TECHNOLOGY TO WATCH 105

ASIA

GETTING READY TO GET INTO VIETNAM 106

The embargo that has kept Americans—but not Japanese—out of what could be a new growth market is easing. Some hard-charging vets will be on the first plane in. *by Ford S. Worthy*

INNOVATION

PRODUCTS TO WATCH 111

EXECUTIVE LIFE

IT'S A GREAT TIME TO TRADE UP (IF YOU HAVE THE CASH) 112

Conspicuous consumption is gauche, and the luxury tax is a real pain. But some big bargains await you in expensive goods. *by Anne B. Fisher*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12

Reverse synergy—a new way to go, the economy squeezes summer interns, celebrities come out for Italy's elections, Detroit gets crushed for real, ready to dance on Castro's grave, and more.

FORTUNE FORECAST 25

FORTUNE's economists explain what will propel the recovery. Also: Unemployment is bad, but not as bad as you think. *by Joseph Spiers*

Economic Intelligence: Linking soaring health costs to corporate layoffs, how to cut the deficit, and the Third World gets the message.

PERSONAL INVESTING 33

Small-capitalization stocks may be going wild, but the real performers are the low-profile midsize shares. *by Andrew E. Serwer*

Also: How to get a rich yield plus inflation protection, semiconductor stocks start to sizzle, and Portfolio Talk with Ellen Harris of Paine Webber's domestic mutual-fund group.

LETTERS TO FORTUNE 55

FORTUNE PEOPLE 118

A Japanese boss says read my book, an IBM heir's campaign fund for Democratic women, and more. *by Laurie Kretchmar*

KEEPING UP 119

Socialism for 2-year-olds, the stats on Peter Jennings, great moments in media, down with success, and other matters. *by Daniel Seligman*

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EDITOR'S DESK

Colvin: Reward CEOs for success; punish them for failure.

FORTUNE took a hard look at executive compensation in 1988, we said the issue could erupt into a full-blown controversy unless companies devised a more equitable way to pay their top bosses. Recalls Colvin: "We took a lot of guff on that one. People were convinced that Washington would never get involved, that this would not become a bare-wire issue."

But it has, and the notion that chief executives are ripping-off shareholders is now a highly charged topic in Washington, on Wall Street, and in corporate boardrooms. Several U.S. Congressmen have proposed legislation to regulate executive pay. The Securities and Exchange Commission is considering action. Colvin realized just how concerned top corporate brass have become when he surveyed his Northwestern audience urgently trying to figure out what to do. Our story may help be a guide. Look too for our annual compilation of CEO pay at 200 top companies, coming later in the spring.

WHEN the Kellogg School of Business at Northwestern University set up an all-day seminar for dozens of chief executives, corporate directors, and compensation consultants on the hot-button subject of CEO pay, organizers asked senior editor Geoffrey Colvin to be a key speaker. A good choice: He has supervised our coverage of CEO pay for the past five years.

Colvin told the Kellogg audience—members of 180 corporate boards were present—just what he reiterates in our cover story beginning on page 60: The method by which top executives get paid is out of whack. What is needed is a plan that gives them a true incentive to succeed but also makes them—and their board members—accountable for failure. Says Colvin: "The problem is that directors buy a chief executive's services, but the shareholders pay for them. That can often lead to trouble."

Don't say we didn't warn you. When

Sellers: Be persistent.

About a year ago, writer Patricia Sellers began pestering executives at Philip Morris for an interview with the newly named CEO, Michael A. Miles. Rebuffed repeatedly, she kept calling until Miles agreed. Her in-depth report, based on interviews with scores of industry executives in addition to Miles, analyzes some suprising problems at the world's largest and most profitable consumer products company.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October, by The Time Inc. Magazine Company. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Joseph A. Ripp, Treasurer; Harry M. Johnston, Secretary. Subscriptions: U.S., possessions, one year (27 issues) $52.95; Canada, one year (27 issues) $53.73. Second-class postage paid at New York, NY, and at additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer inquiries: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000.
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HOW TO PAY THE

CEO RIGHT

As the furor widens, America's business chiefs and corporate boards can fix the system—or let Washington whack at it.

■ *by Geoffrey Colvin*

CEOS ARE PAID a lot to face facts, however unpleasant, so it's time they faced this one: The issue of their pay has finally landed on the national agenda and won't be leaving soon. It is now inevitable that someone will do something about it, and one of the fiercer dramas of the next several months will feature Congress, the Securities and Exchange Commission, the accounting profession, and the CEOs themselves battling over who that someone will be. The fight has already begun.

Anyone can tell you what the problem is. Just ask your neighbor or cabdriver—then stand back. Largely unharnessed from corporate performance, the pay of America's CEOs has been galloping forward faster than the average production worker's pay, faster than corporate profits, industrial production, the national debt, the population of India, channels on cable TV, or just about anything else on earth but the number of newly independent republics. The CEOs of 282 large and medium-size U.S. industrial companies studied by the Hay Group consulting firm earned, on average, $1.7 million in total compensation last year; in the 30 largest, some $3.2 million.

The SEC's Breeden is giving shareholders greater say in setting pay.

Maybe if the economy were thriving and big employers were hiring, no one would care. Maybe if President Bush hadn't taken the auto company CEOs to Japan to meet their lower-paid, more successful competitors, or if consumer confidence weren't in the tank, or if giant companies weren't still announcing vast layoffs, CEO pay wouldn't be on the front pages. But all those things have happened, making Americans deeply, bitterly mad and creating an issue no politician can resist. When a conservative like Dan Quayle rails against "those exorbitant salaries paid to corporate executives unrelated to productivity," something's up. The issue should only get hotter as proxy statements detailing executives' 1991 compensation go out to shareholders in the next few weeks, about the same time as several of the most important primary elections.

The Securities and Exchange Commission, among the first to act, recently reversed its longstanding practice by allowing shareholders a nonbinding vote on corporate pay policies. The commission is considering requiring fuller disclosure of executive pay in proxy statements, and Washington could go still further. SEC Chairman Richard Breeden says, "God only help us if the government gets in the business of trying to regulate compensation. It is the board of directors' job, and I would warmly and strongly recommend them to please do it—because if they do not, then someone will call on us to do it."

Who's to blame for all this? That's easy: CEOs. A pedant might insist that boards of directors are the culprits, since they set top executives' compensation. But in practice most CEOs appoint their own directors, presenting only their nominees to the shareholders for a vote. Besides, 63% of all directors are CEOs. Face it, fellas: You got yourselves into this mess. Now it's time to get yourselves out.

Fixing CEO pay is a two-level challenge. Level one is devising a pay plan that works; many innovative companies—Georgia-Pacific, Avon Products, Becton Dickinson, and several others—are exploring new ways to link pay and performance. Level two—much harder to reach—is getting boards of directors to *adopt* those smart pay plans instead of the stupid ones they so often favor.

The bedrock principle of paying the chief is aligning his interests with the shareholders'. Sounds simple enough. But the favorite instrument for doing that over the past 40 years, the beloved stock option, turns out to be full of problems. That fact guar-

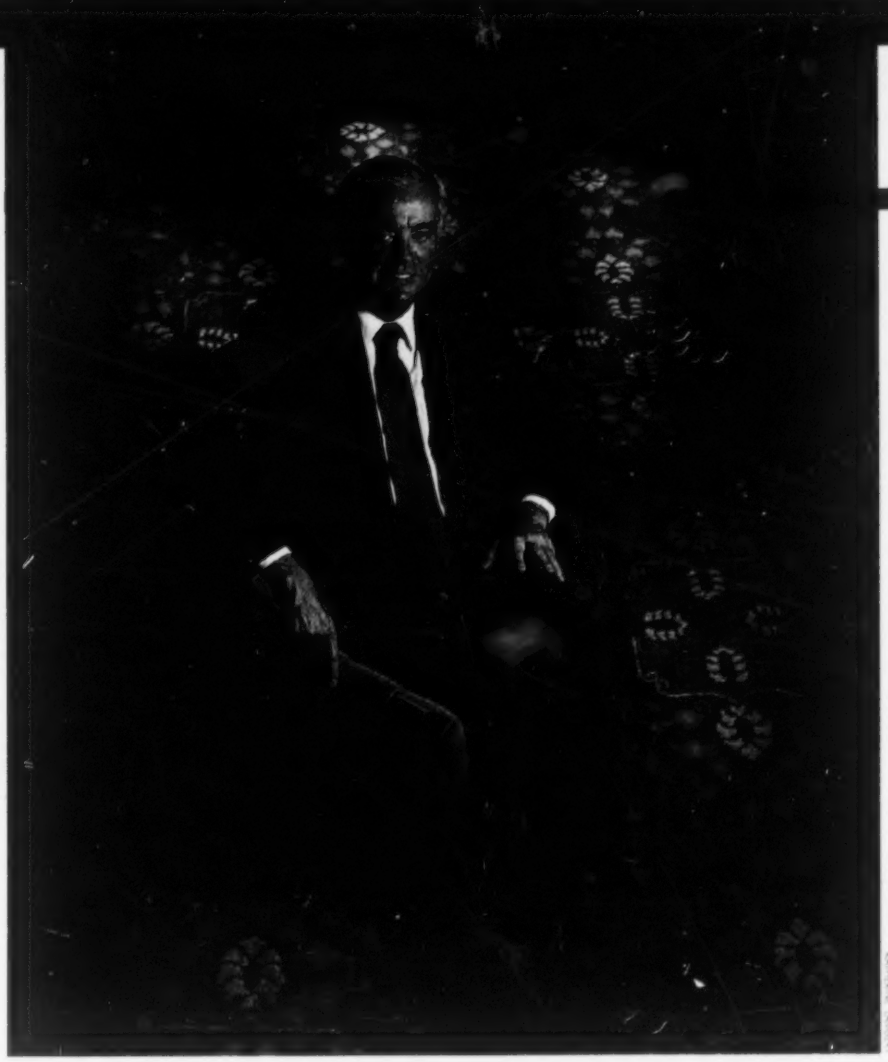
REPORTER ASSOCIATE *Stephanie Losee*

JAMES PRESTON

CEO, AVON

- **Has salary frozen at $610,000 until retirement.**
- **Has cut in target bonus from 65% of salary to 50%.**
- **But gets one-time grant of options on 50,000 shares.**

PHOTOGRAPH BY HANS NELEMAN



T. MARSHALL HAHN

CEO, GEORGIA-PACIFIC

- **Instead of stock options, will receive grants of stock—but only as the share price rises.**
- **Must hold all shares received for at least five years.**

antees conflict ahead, because options have been the main engine powering the hypergrowth of CEO pay since the Eighties. In 1985 the typical CEO of a fair-size American industrial received long-term incentives, mainly options, with an estimated value of $58,000. Last year it was over $527,000. Base salary, bonus, perks, benefits—each figures in, but not like options. They are the form of compensation getting the closest scrutiny from Congress, the SEC, and the accounting profession.

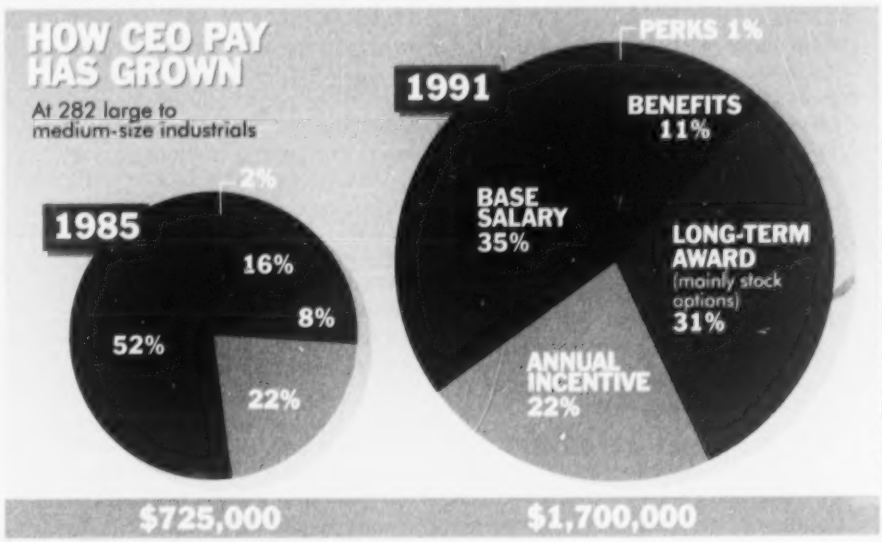
A standard option gives an executive the right but not the obligation to buy company shares for ten years at the market price on the day the options were granted, though usually he must wait two to four years before he may exercise them. The incentive seems straightforward: The executive will work like mad to maximize his wealth by raising the stock price, and shareholders get the benefit.

Trouble is, it doesn't work very well. Options can be employed intelligently and effectively. But because they have built-in flaws and are often abused, their record of linking executives' interests with shareholders' is far from good. One reason is that the optionee doesn't put up any money. For most ordinary investors, the fear of loss is at least as strong a motivator as the hope for gain, but recipients of options face no risk. If the stock rises, terrific; if it falls, they simply discard the worthless things. As compensation consultant James F. Carey puts it, "From the participant's viewpoint, the option grant may seem like a no-risk wager in a game of craps called 'the market.' "

The CEO with options has another advantage over the ordinary investor: inside information. Knowing the company's prospects more intimately than anyone, he has a far better chance of choosing a peak in the stock price to exercise options and take his profit. There's nothing illegal about this. That's just the way it is.

And that is how options work when companies play fair. Many play otherwise. Suppose a company issues options to a CEO when the stock is at $50, and it then falls to $30. You might think it's only right for the optionee to be out of the money in that case, but some compensation committees instead take pity on him. They cancel those options and replace them with new ones at $30.

America's champion option repricer is Apple Computer. "They're worldclass," says Ralph Whitworth, president of the Washington shareholder rights group United Shareholders Association, with bitter admiration. Apple has repriced executive stock options six times since 1981.



with two repricings affecting options held by CEO John Sculley. As a result, he has earned gains on those options before investors who stayed with the stock earned a dime. Venture capitalist Peter O. Crisp, chairman of the compensation committee of Apple's board, won't comment on the repricings.

The bottom line is that when compensation expert Graef S. Crystal examined the option gains of 281 CEOs vs. the performance of their companies' stocks in the 1980s, he found scant correlation. Chief executives could often wring substantial option gains out of shares with merely middling long-term performance. In short: Options on average do not put CEOs in the same boat as shareholders, or even in the same body of water.

So why do boards of directors award them in such superabundance? Mostly for a few reasons, none of them good but all of them powerful. One is the near-magical way options are treated in a company's financial statements. Pay a CEO in cash, and that money becomes an expense that reduces profits. But give him a stock option, even a mammoth option that may one day pay him tens of millions, and under the rules of accounting, reported profits do not decline 1 cent as a result. On the corporate income tax return, however, options do have an effect: They eventually create a deduction if they turn out to be worth something. When an employee exercises his options, tax rules recognize that his gain is value the company has given away—after all, it could have kept those shares and sold them later at a higher price—so it is tax deductible.

ANOTHER extraordinary feature of options is that their value is almost never fully reported to shareholders. Stock options most assuredly have value, even though any option's precise payoff is uncertain until it is exercised. A company's annual proxy statement reports top-executive option grants but gives no hint of what those options might someday be worth—a value that can be estimated through several techniques. Yes, the proxy will also report the CEO's gain when he exercises options, but only if he is still an officer.

Consider a few related facts: Most options are good for ten years; most CEOs hold that job for less than ten years; most options can be exercised for three years or more after an optionee retires. Shareholders never know about most of a CEO's option profits because he takes them after he is no longer an officer.

Now imagine you're a corporate director when profits are under pressure and CEO pay is a bare-wire issue. At the February board meeting do you vote the CEO an extra million dollars in salary and bonus, which will reduce profits and increase his compensation as reported in the proxy statement? Or do you give him options that are worth perhaps two or three times that much, will not affect profits, may reduce the company's taxes later, and will not show up as a dollar amount in the proxy? This may be where the phrase "no brainer" originated. All in favor say aye!

If the financial treatment of stock options seems crazy to you, you're not alone. The SEC, Congress, and the rulemakers of accounting have all recently begun considering changes that would wipe out the striking attractions of options. And many CEOs are *steaming*. At the top levels of giant companies, meddling with the boss's pay is known as "playing with the sheriff's daughter."

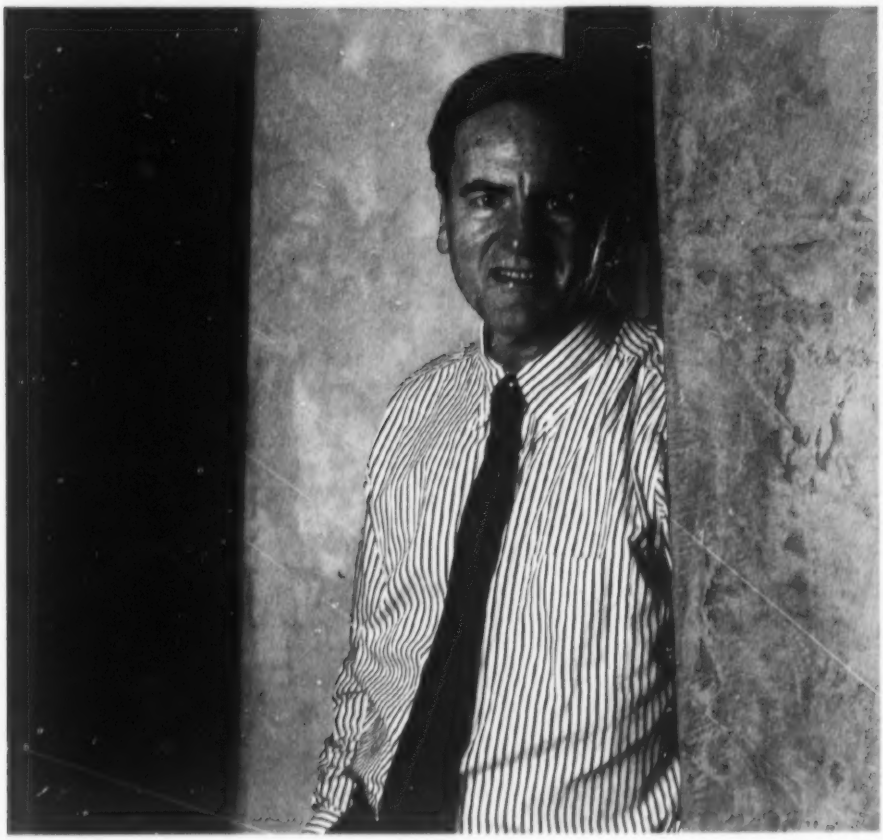
SEC Chairman Breeden has directed his chief accountant to report by mid-June on ways companies might be required to calculate a dollar value for option grants, which would be reported in proxy statements. Some of these valuation methods make your temples throb, but a rough rule of thumb for ordinary ten-year options is to take the grant's face value—number of shares times exercise price—and divide by

JAMES SUTTON

CEO, UGI

- **Received just one grant of stock options in five years.**
- **Earned dividends only if company beat peers.**
- **Raised UGI from No. 23 to No. 2 in total return.**

Sutton, left, and compensation committee chairman Robert C. Forney, a recently retired Du Pont executive, plan to renew UGI's successful five-year pay program this spring.



three. Senator Carl Levin (D-Michigan) has introduced a bill that would, among other things, make companies value option grants and reduce reported profits when they award them, just as when they award other forms of compensation.

Much more significantly, the Financial Accounting Standards Board, which sets accounting rules, has just shoved to the front burner a long-simmering project on the treatment of options. If the board concludes—as it well may, and should—that giving options involves an expense, the effect on CEO pay could be enormous. The directors' no-brainer isn't so simple anymore. Financially, options are the one big freebie in the world of pay, since you can award all you like and never reduce reported earnings. But if the accountants start charging for them, you can be certain companies won't use them as much. It is even conceivable that some CEOs' pay could go down.

If you think CEOs don't worry much about this technical accounting stuff, consider what happened the last time FASB tried to tackle the issue of options, in the mid-1980s. It never even got a chance to write a proposed rule. Scores of high-powered CEOs—"not the people who normally write in on accounting matters," recalls a former board member—came down like a ton of bricks with strongly worded letters, many not bothering to give reasons, according to people who have read them. The simple message: *Drop it.*

FASB tabled the matter for four years in favor of others it decided were more important. And this time? "The forces of opposition have not quite been marshaled yet," said FASB Chairman Dennis Beresford on the day the board stepped into the ring for Round Two. "But they will be."

JOHN SCULLEY

CEO, APPLE COMPUTER

- **Has had his options swapped for lower-priced ones.**
- **Has earned gains on these before investors who stayed with the stock made anything.**

And where will these forces come from? One place to look is the Business Roundtable, the club of CEOs from 200 of America's largest companies. It has been feuding with FASB for years and lost no time staking out a position on this issue. Executive stock options, it believes, are just about the greatest thing for America since microwave popcorn. In a statement so audacious it makes one's head swim, the Roundtable claims that the bull market of the 1980s is proof that stock options work. Options did multiply enormously in those years, but most compensation consultants say cause and effect were just the opposite: Boards saw the market taking off and jumped to ladle out more options.

THE WHOLE IMBROGLIO is a shame, because options, for all their problems, *can* be useful incentives if adapted and applied with rigor. Directors courageous enough to demand real performance from a CEO can, for example, index the option's exercise price to some target return they want to beat—the stock market's, an industry peer group's, or the rate on Treasury bills, for example. Becton Dickinson, the New Jersey medical technology company, did that last year when it adopted a plan that sets executive option prices for the next four years according to the performance of the S&P 500. The board grants options each May, and if the S&P has outperformed the stock since the last grant, then the exercise price of new options is set higher than the actual share price. That will give CEO Raymond V. Gilmartin and his top officers a windfall if Becton stock has beaten the S&P but will leave them struggling to catch up if it has fallen behind.

That element of risk tied to the stock's performance is key to effective CEO pay, say most compensation consultants. A little imagination can find all sorts of ways to create it. One, similar to indexing but simpler, is to set an option's exercise price way above the market and then just sit back and watch the CEO try to beat it. The best example is the 1.8-million-share option granted to Time Warner co-CEO Steven J. Ross two years ago at $150 a share when the stock was at $118. The grant could still earn him a vast sum, but with the stock currently around $105, Graef S. Crystal calculates there's about a 40% chance it will never earn him a thing.

Another effective way to add risk is to substitute some form of stock compensa-

tion for cash. That's still unusual; the story of CEO pay over the past few decades is a tale of clever but riskless incentive plans piled ever higher as consultants thought them up. Each one, intended to motivate the CEO afresh, simply tossed him another no-lose way to make a bundle. But taking away old-fashioned cash and putting some form of risky stock in its place—that focuses the mind.

Avon has just done this in a new plan to be described in its proxy statement due out any day now. CEO James Preston, working with Goodyear CEO Stanley C. Gault, who is chairman of Avon's compensation committee, came up with a plan that freezes Preston's base salary for the rest of his career—he'll be 65 in seven years—at $610,000 annually. His target bonus had been 65% of that but is now reduced to 50%. In return for giving up seven years of raises, which at a modest 10% annually would have lifted his salary to nearly $1.1 million by retirement, plus giving up part of his bonus, he gets a one-time grant of options on 50,000 shares.

Because Preston's salary is frozen, those options have a hurdle built in. Preston has been telling the world that Avon can increase profits 10% to 12% annually for the next three to five years. If that happens, and the stock rises in tandem, then Preston's gain on his options will merely equal what he gave up in expected raises and bonuses. In other words, to come out ahead, Preston will have to beat his own projections for the company.

That's incentive. Note that the plan is not fancy. Yet it more than satisfies major institutional shareholders who have been ticked at Avon for beating back four takeover attempts in three years. Preston meets twice yearly with representatives of these shareholders, and Ralph Whitworth of the United Shareholders Association came to last November's gathering "loaded up to talk about compensation," he says. But Preston preempted the attack by announcing his new pay plan first.

"Jim and I have talked about compensation for years," says Gault. "At Goodyear the vast majority of my reward will be directly tied to stock. It's not a surprise that Jim would want his compensation on this basis." Preston explains how the plan has affected him: "I have an incredibly vested interest in shareholder value. My focus is on making myself and thousands of others wealthy."

To see a sophisticated and effective use of options, check the pay plan at UGI, a diversified gas and electric company in Valley Forge, Pennsylvania. When James Sutton took over as CEO in 1986, UGI ranked 23rd in a group of 23 peer companies on the basis of total return to shareholders over the previous five years. To turn things around, Sutton and his board decided to replace a jumble of long-term pay plans with a single option plan.

He and his top officers would get option grants, and then no more options for five years. During that time the substantial dividends associated with the option shares would be placed in a special account for each officer. After the five years—which ended last December 31—the officers could get their dividends according to how UGI ranked in its peer group based on five-year total return. If it ranked No. 10 or below, they would get nothing; if No. 7 through No. 9, they would get 50% of the dividends; if No. 2 through No. 6, 100%; and if UGI ranked No. 1, they would get 160%.

WILLIAM P. STIRITZ

CEO, RALSTON PURINA

- **Was offered $16 million of stock if price rose 60%.**
- **Took five years to hit target.**
- **Received reward for a performance that fell short of industry average.**

When the big day came, UGI ranked No. 2 (after Indiana Energy), with a five-year compound average annual return of 17.2%—far better than the stock market. Sutton collected $1.5 million. After paying taxes, he invested the rest in UGI stock. All his top officers did the same. "We wanted a high-risk, high-reward plan," he says. "It caused us to take a long-term view. Every time we looked at a major project or strategic decision, we ended up reducing it to shareholder value."

GEORGIA-PACIFIC recently adopted a different sort of stock-based incentive. At the instigation of CEO T. Marshall Hahn Jr., the company abandoned stock options for top officers in 1988, replacing them in 1990 with outright grants of stock carrying some tight restrictions. If the stock rises 20% from a $50 base (about $8 higher than the actual price when the program started) and stays at that level for 20 consecutive trading days, the officers get 20% of their grants. If it rises 40% and stays there for 20 straight days, they get 40%, and so on. After five years the program ends and the officers can receive up to 100% of their stock grants—if the stock has doubled. They must hold for at least five years whatever stock they get. Wall Street analysts who follow the struggling paper industry like the plan. Says Chip Dillon of First Manhattan: "It gives management more incentive to do what's in the interests of the shareholders."

Design such a plan without sufficiently high hurdles and you're asking for trouble. Ralston Purina's board told CEO William P. Stiritz and his top officers in 1986 that if they could get the stock up 60%, they would collect large helpings of it. The job took five years, and Stiritz collected $16 million of shares for a performance that barely exceeded the market's and failed to match the food-processing industry's. The plan did exactly what a good plan shouldn't: pay big for subpar performance. Stiritz won't talk about it, but Ralston has said in a prepared statement that the plan "was appropriate for the company at the time and has achieved cost-effective results."

The common element in well-designed plans is getting a lot of stock into the CEO's hands and making sure it costs him. It could cost him years of raises, as at Avon, or it could cost him a pay cut. That's what happened at International Multifoods in Min-

neapolis, where CEO Anthony Luiso asked the board to trim his cash compensation by $200,000 a year for five years in return for stock options of equal value.

Such reforms could even cost the CEO money out of his checking account. A number of compensation experts think a smart board might simply set a stock ownership goal for the CEO and tell him to reach it any way he wants—by exercising old options or by calling up his broker. In any case, whenever a CEO exercises options the board should insist that he sell only enough of the shares to pay the taxes—and hold the rest. That doesn't just sound like common sense; it also is in sync with research by consultant Ira Kay of the Hay Group, who has found that the more of his company's stock a CEO owns, the better the company performs.

But wait. Isn't this just a bit draconian, making the CEO live and die by the stock? After all, researchers have shown that most of a stock price's movement results not from the actions of managers but from the movement of the market. Is it really fair to make a good, hardworking corporate chief suffer when the inscrutable market moves against him?

Sure it is, say investor rights advocates, who point out that when the stock goes down, investors suffer and employees often suffer, so why shouldn't the CEO suffer too? A better response is that "suffer" is perhaps not the *mot juste* here. No CEO of a large American company is going to suffer, as most people would understand that term, no matter what the stock does, thanks to two little items called base and bonus. In major companies these generally furnish a million or two annually to keep body and soul together no matter how chill the wind on Wall Street. Preston of Avon, whose base salary is barely average for a company with sales of $3.6 billion, maintains a wry sense of perspective on the matter: "I have a safety net of $610,000, and believe me that's more than adequate. My family and I have agreed that no matter what happens, we'll squeak by."

In truth, salaries are not much of an issue in the furor over CEO pay. They account for only about one-third of total compensation, and finding one much above $1 million isn't easy. That's a lot of money, but it won't get you on a magazine cover or denounced on the Senate floor.

Bonuses are another matter. The practice of awarding them "at the discretion of the board" is an invitation to negate all the good intentions of a pay-for-performance plan. To avoid this, many companies set explicit targets—for earnings, return on assets, or some other measure—that will trigger a bonus, and stick to them. At UGI, James Sutton received no bonus in 1990 or 1991 because abnormally warm weather cut demand for gas and electricity, which clobbered earnings per share. Is that fair? "Life isn't fair," he shrugs.

Varying this approach, some boards set the bonus as a flat percentage of profits. Reebok famously did this for CEO Paul Fireman when the company was tiny, and as it mushroomed his bonus did too—alarmingly—exceeding $15 million in 1987. Disney CEO Michael Eisner gets a profit-based bonus, $4.7 million in fiscal 1991. So does Time Warner's Steve Ross. While the 1991 amount hasn't been announced, it will be larger than last year's $2 million because operating profits were higher.

The danger in the focus on profits is that it zooms in on just one accounting measure, one that a clever CEO may be able to manipulate, perhaps to the detriment of the company. It may be "too easy to kite," as Stanley Gault says. So there's no easy, mechanical approach to calculating bonuses; fickle as the board's judgment may be, you've got to rely on it.

WHICH LEADS to the great big question in the world of CEO pay: How do you get the board to do the right thing? Even if you devise the most brilliant compensation plan ever, why should the directors adopt it? Because their job is to discipline management for the good of the shareholders? Remember that effective CEO pay plans always involve a hefty risk—something many CEOs, like most other people, don't like. Remember also that CEOs in essence appoint the directors to their prestigious positions and usually recommend their pay. These directors are not naturally eager to hold the CEO's feet to the fire on compensation. Note that not one of the well-designed pay plans cited here was imposed on a CEO by his board. On the contrary: In each case a confident CEO approached the board saying, "I'm willing to take on more risk if you'll give me a shot at some extra reward." Such cases are rare.

Countering the temptations for a director to go easy on CEO pay are a few building pressures to get tough. One is the threat of legal action. Directors seldom get sued for overpaying the CEO, but it happens, and in the current climate it could happen more. Fairchild, a miniconglomerate built around the old Fairchild Industries, last year settled a shareholder suit alleging that directors overpaid CEO Jeffrey J. Steiner. His salary and bonus totaled $6 million in 1990, when the company earned only $1.5 million. The settlement cuts Steiner's salary, restricts his bonus for five years, and cancels options on 50,000 shares.

Institutional investors, the wakening

AND ABROAD?

Across America the cry was inescapable as President Bush led all those CEOs on his ill-starred January tour of Japan: *Our guys make three times more than theirs—and look who's eating whose lunch. It's a scandal!* The U.S. executives were prepared with their riposte: *Don't be fooled. These Japanese CEOs get enough perks to make Queen Elizabeth weep—and their value is never reported.*

What's the truth?

The truth, in a sentence, is that Japanese and other non-U.S. CEOs do get perks by the truckload—the use of company-owned homes and vacation retreats, club memberships—but their value does not close the pay gap by a long shot. Conventional wisdom holds that this is a cause of America's competitiveness problems. But while runaway pay disspirits workers, there's no reason to think that just cutting it will, by itself, do much for U.S. competitiveness. Why not? The situation is analogous to that of the U.S. students who ranked near the bottom in an international survey of math skills but had the No. 1 opinion of themselves. In a system in which CEOs appoint their companies' directors, most of whom are other CEOs, pay is precisely the expression of what CEOs think of themselves. Like U.S. students, they should recalibrate their self-image. But that won't help the country unless they also perform better.

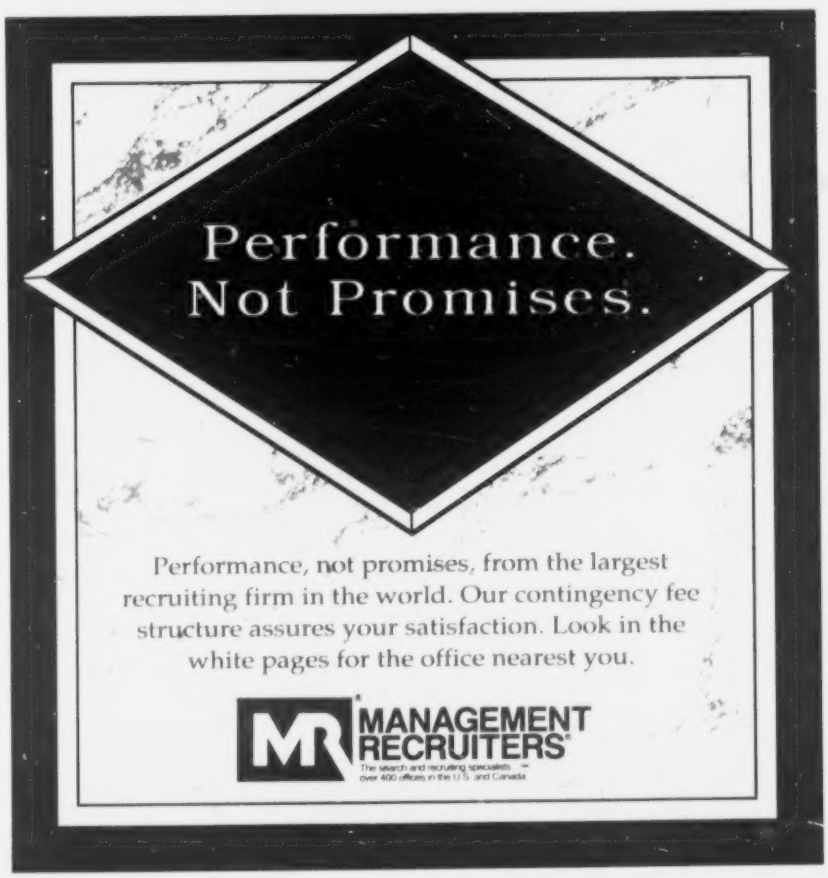
What's true for companies is true for countries: If the U.S. were beating the pants off its rivals, hardly anyone would care what its CEOs got paid. That's why just paying less isn't the answer, and paying for performance is.

900-pound gorillas of corporate life, are turning their attention to CEO pay. A group of them, including the formidable California Public Employees Retirement System (Calpers), last year went after ITT and won its agreement to tie CEO Rand Araskog's pay more closely to the performance of the stock. That was only one company, but the ugly publicity it endured has probably frightened many others into changing their ways.

As the public grows more fascinated by CEO pay, the threat of personal embarrassment or shame may be one of the strongest forces building up on directors. Time was when they scarcely had to explain their actions to anyone. But when Mike Wallace pushes a microphone under your chin, you'd better have something to say.

LESS CONCRETELY but just as certainly, the spirit of the times is having its effect. These are the frugal Nineties, and directors can feel it. The zeitgeist has often influenced CEO pay, which hasn't always advanced at its recent breathtaking clip. A couple of decades ago it increased more *slowly* than the pay of factory workers. Jude Rich of Sibson & Co., one of America's most respected compensation consultants, says the bull market in pay that's still going on began around 1975. That was a time when the larger culture was throwing off self-restraint everywhere. Significantly, it was also around the time federal courts freed baseball players from indentured servitude by invalidating the reserve clause. Don't laugh: Many pay experts agree that when 20-year-old shortstops started making more than CEOs, everything changed.

If pay practices are improving now, it's because CEOs and directors are feeling the heat of public outrage. It should burn steadily through the proxy season, and the presidential election will keep it alive for a while afterward. And then? Real reform, if it's to happen, will have to occur hundreds of times in boardrooms across the U.S. That is necessarily a touch-and-go proposition. Revolution may seem to be in the air, but never underestimate the power of chief executives who would really rather not change the way they're paid. Like CEOs, the rest of the country must face facts, however unpleasant: If a recovering economy or some other issue quenches the outrage and eases the pressure, there's no assurance that anything significant will change at all. F



STILL MAKING OUT ON WALL STREET

The booming stock market has investment bankers pulling down seven figures again. But some wise folks are trying to bring reason to an unruly compensation process. ■ *by Ford S. Worthy*

IF CEO COMPENSATION seems irrational, consider how Wall Street pays itself. In the year before Drexel Burnham Lambert declared bankruptcy, the firm forked over $151 million in bonuses it had guaranteed to 60 bankers and other employees. Irate creditors are now dunning the bonus babies for the money. Says a former senior officer of the firm: "No longer was pay related to performance."

At a Valentine's Day meeting with security analysts, Warren Buffett, interim chairman of Salomon Inc., described the haphazardness that typified pay policies at Salomon under the former management. "Prior to this year," he said, "there has been no understanding at all as to how compensation would eventually be determined at the end of the year . . . It was essentially a system where the year went along and people tended to quite understandably argue for whatever yardstick . . . worked best for their particular case, which is exactly what I would have done under the circumstances."

The dueling yardsticks kept pay and performance apart at Salomon, as they do regularly at other firms on Wall Street. Salomon's profitable departments, for instance, typically subsidized poorly performing ones like investment banking, whose professionals received millions of dollars in "bonuses" for bringing in large revenues but meager earnings. Just as out of whack is the relationship between the money some Wall Street firms shovel out to employees and the earnings they retain to compensate shareholders for the use of their capital.

Buffett: dueling yardsticks

In 1990, Sibson & Co., a leading compensation consultant, conducted an analysis of major securities firms. The results showed that in the second half of the 1980s, a period in which Wall Street profitability went from outperforming to underperforming the rest of corporate America, the firms nonetheless allocated a progressively larger share of their booty to employees as compensation rather than to shareholders as profits. Why? The industry did not exercise enough "discipline," says Richard Fisher, chairman of Morgan Stanley, one of Wall Street's biggest firms.

The wrenching recession that eliminated one of every five Wall Street jobs and one out of every five firms that existed in 1987 did impose a fleeting self-control on the financial community. But then the market took off in 1991—and so did pay. Following a stupendous year, compensation at many firms shot up 25% to 35%, pushing many senior corporate finance professionals well above the $1 million mark and experienced bond traders into the $650,000 to $850,000 range—not far below what they earned in the greedy mid-1980s. Mind you, those figures are merely *averages*.

Why is it that trading bonds or underwriting stock pays so richly compared with making cars or writing articles about million-dollar MBAs on Wall Street? Because the money is there and salaries are set by a ruthlessly competitive market. This is vulture capital paid by a firm to retain performers who can expand market share or increase profits while competitors circle overhead ready to swoop down and carry off anyone who thinks he or she is underappreciated. Invariably, when a company starts offering fat guarantees or other enticements to keep or lure someone, other employees demand similar treatment, and the firm's overall compensation system begins to fragment. The link between pay and performance grows ever weaker.

The link has long been tenuous because few firms know how to measure performance well. Return on equity is one of the best yardsticks. The calculation seems straightforward: total annual profits generated by a given business, divided by the amount of equity capital that the company

TOTAL COMPENSATION: SALARY AND BONUS

POSITION	JUNIOR PROFESSIONAL (3-5 years' experience) in thousands	SENIOR PROFESSIONAL (10+years' experience) in thousands
Stock research analyst	$150–$250	$350–$500
Bond trader	$300–$500	$650–$850
Corporate finance generalist	$250–$400	$700–$1,000
Merger and acquisition specialist	$250–$400	$750–$1,200
Institutional bond salesperson	$200–$300	$600–$800

REPORTER ASSOCIATE *Joshua Mendes*

Merrill's Allison: He is making the paycheck reflect performance.

has invested in the business.

Pinning down profits, the numerator in this simple ratio, is difficult because the typical business unit within a Wall Street firm does not stand alone. Directly and indirectly, it depends on other operations throughout the firm. And all of them want credit for bringing in the same fees. Could the investment banker have landed that stock underwriting without the research department, whose security analysts first spotted the opportunity because of their knowledge of a particular industry?

Trying to get a handle on the denominator—how much equity should be allocated to each business within a firm—is even dicier. A mergers and acquisitions team selling its advisory services to a client might not need much capital itself, yet the success of a deal may depend on others who do: say, traders willing to buy and sell the debt issued to finance a takeover, who consume capital the way teenage boys do food.

Moreover, the equity attributable to a particular business should be adjusted to reflect the fact that some activities within a firm are riskier than others. And because risks change—frequently and sometimes significantly in the case of trading sophisticated financial instruments—the equity ideally ought to be reallocated almost constantly, rather than, as is the current practice, once a quarter or once a year or not at all. According to Charles Bralver of Oliver Wyman & Co., a consultant to the banking and securities industries, some Wall Street firms implicitly factor in this flux when measuring the performance of individual business units, but few do so explicitly or consistently.

The consensus is that Morgan Stanley and Merrill Lynch manage measurement issues better than most other firms do. Merrill Lynch's standards for judging performance reflect an unusual devotion to weighing the relative risks inherent in different businesses. The company regularly analyzes its reasonable worst-case exposure to loss in about 60 different activities, including those like interest rate swaps that require off-balance-sheet capital commitments.

The firm sees to it that the business unit has enough capital to survive such a loss, increasing (or decreasing) the equity account as necessary. Individual units are expected to aim for the same 15% after-tax return on this "risk-adjusted" equity. By putting all units on the same footing, Merrill can compare the performances of different businesses more effectively.

Merrill Lynch has also been working hard to yoke the interests of the employees and the shareholders. Two years ago chief financial officer Herbert Allison devised an incentive pay plan that promised employees payments, in addition to their regular bonuses, that depended on how much the company advanced toward a targeted return on equity of 12.5%. Since few at Merrill imagined that the firm would come even close to that level, the special payments were immediately ridiculed as "Herbies." A tin can labeled Herbies was presented to Allison bearing a warning that read "Important: Open only when Merrill Lynch makes our ROE goal. Don't hold your breath." Last year the firm turned in a roaring 21% return on equity, and those Herbies became known as "Mr. Allisons." Though Herbies no longer exist, Merrill Lynch incorporated the same link between bonuses and the firm's ROE into its broader incentive compensation plan.

"Important: Open only when Merrill Lynch makes our ROE goal. Don't hold your breath."

Morgan Stanley maintains a consistent relationship between the share of the performance pie that goes to employees as compensation and that which goes to shareholders in the form of dividends or retained earnings. If you think of the pie as what's left after all expenses except taxes and compensation are deducted from revenues, employees typically get two-thirds and shareholders and the tax collector the other third. That split has produced annual returns on equity that are among the highest in the industry, about 25% on average since Morgan Stanley went public in 1986.

The nature of compensation is also changing. Bear Stearns, Morgan Stanley, Salomon Brothers, Smith Barney, and many other firms now pay professionals anywhere from 5% to 50% of their total compensation in restricted stock, which cannot be sold for up to five years.

Salomon hopes to restore symmetry to compensation through bonuses that more closely reflect performance—or lack of it. In January, chief operating officer Deryck Maughan asked Salomon's senior managers to "take the downside" risk if they fall short of specific goals agreed upon at the outset of the year, in return for the chance to earn vastly higher bonuses if they perform well. Roughly 150 top managers will now be exposed to potentially huge swings in compensation. Maughan suggests that this year these "partners" could "see their incomes coming in at a third of what they have been, or double what they have been."

For a clue to how effective Wall Street's compensation practices may be at rewarding and retaining valuable professionals, keep your eye on Salomon, which has lost droves of employees since Warren Buffett began overhauling the firm and the way it pays people. In particular, watch Lawrence Hilibrand, 33, a fixed-income arbitrage specialist. In 1990 the high-tech trading department he headed reportedly took in $400 million in pretax profits. Hilibrand personally received $23 mil—his share of an alluring commission deal that supposedly gave his group 15 cents for every dollar in pretax profits it produced. Buffett has described him as the closest thing Salomon had to a .400 hitter that year. But will Hilibrand remain with Salomon, for whom he has worked since 1980, or will competing firms successfully tempt him away with fat guarantees, all-cash bonuses, and sky-is-the-limit payoffs for every additional buck he brings to the bottom line? If money talks, will he walk? F

CAN HE KEEP PHILIP MORRIS GROWING?

Mike Miles rode into Marlboro Country with a charge to continue improving profits 20% a year. But consumers are resisting high-priced cigarettes, and the Kraft cheese business has gone soft. The new CEO is dealing with some surprising problems. ■ *by Patricia Sellers*

A [illegible] veteran, Miles is the first non-tobacco chief of the world's largest consumer goods company.

I AM A WORRIER," says Philip Morris CEO Michael Miles. "I worry whether tomorrow will be Wednesday. I worry instead of exercising." Last year, when Miles won the four-man horse race to become head of the world's largest, most profitable consumer products company, he fretted that there would be nothing left to worry about. "If there has ever been a company that looked like it didn't need fixing," he said, "Philip Morris is it."

Well, that's one thing he can stop worrying about.

Six months in the saddle, Miles is discovering that the task of producing 20% annual earnings growth—the measure of success at Philip Morris—is far more daunting now than in the recent past. His predecessor, Hamish Maxwell, hit the bull's-eye in each of the past five years, and investors expect the same marksmanship from the new man. "We're going to shoot for it," says the laconic Miles, 52, the Gary Cooper of corporate cowboys. But he is facing a different marketplace—and a much more difficult one.

■ **PROBLEM NO. 1:** U.S. tobacco. Despite Philip Morris's blockbuster acquisitions of Kraft (1988) and General Foods (1985), domestic cigarettes is still the business that puffs up profits, bringing in $4.8 billion in operating income last year, or almost half the corporate total. Trouble is, the American cigarette industry is declining 2% to 3% a year. Much worse, smokers are switching in packs from Philip Morris's premium products—Marlboro, Merit, Virginia Slims, and Benson & Hedges—to cheaper brands with smaller profit margins. Unit sales of Marlboro, America's leading cigarette, fell 3.3% last year. Bargain brands—and Philip Morris now markets them too—are a bigger threat to investors and to that 20% goal than the product liability litigation now before the Supreme Court.

■ **PROBLEM NO. 2:** The food business is not the staple it used to be. Recession-battered consumers have changed their shopping habits. The combination of price-sensitive buyers and a narrowing of the quality gap between private-label and brand-name goods means slower sales for Kraft General Foods. KGF's North American revenues rose only 1% last year. Excluding special charges, operating income increased a disappointing 8% as the Cheese Whizzes in the Kraft U.S.A. unit—using a Miles-made strategy—missed internal profit targets by $125 million. Management says that profits probably will rise less than 10% in 1992.

Miles to the rescue? Not if he can help it. Sober, self-effacing, and professional in the extreme, he dreads being viewed as change-maker or revolutionary. But he is: Miles, who ran Kraft General Foods from 1989 to 1991, is the first non–tobacco man and non-smoker to lead Philip Morris in its 145-year history. In his comments to FORTUNE, the first major interview since he took over, he made clear that he wants any change to come from the ranks: "I say to managers that once I've had a chance to put my 2 cents in, do what you want. Every 100th time, I will want it to be my call."

Miles does recognize that part of his job is to calm his fellow worriers. Says he: "Right now our people are operating in difficult times, and it's hard to see a lot of light at the end of the tunnel. There's a bit of a tendency to think things are going to be bad for as far out as we can see."

Bad? Many managers would love to have Miles's problems. The company earned $3 billion last year on sales of $48.1 billion. (The company reports $56.5 billion, but that includes excise taxes that it collects and passes on to governments.) Philip Morris sells more than 3,000 items, including cigarettes, Kraft cheeses, Post cereals, Maxwell House coffee, Entenmann's baked goods, Toblerone chocolate, and Miller beer, which is the world's second-largest brewer yet represents only 8% of revenues. The stock has returned an average 36% to investors annually, including reinvested dividends. The value of the shares outstanding hit $74 billion last December and has since slid to $69 billion. That still exceeds the value of any other U.S. company except Exxon.

The new CEO's biggest "problem" may be deciding where to invest Philip Morris's money. The company gushes more excess cash than any other enterprise but Exxon. During the next five years, Miles figures, Philip Morris will throw off free cash of more than $21 billion—almost $500,000 an hour on average. This excess is the money left over after capital expenditures, dividends, and taxes—and Philip Morris can use it either to pay for acquisitions or to buy back stock.

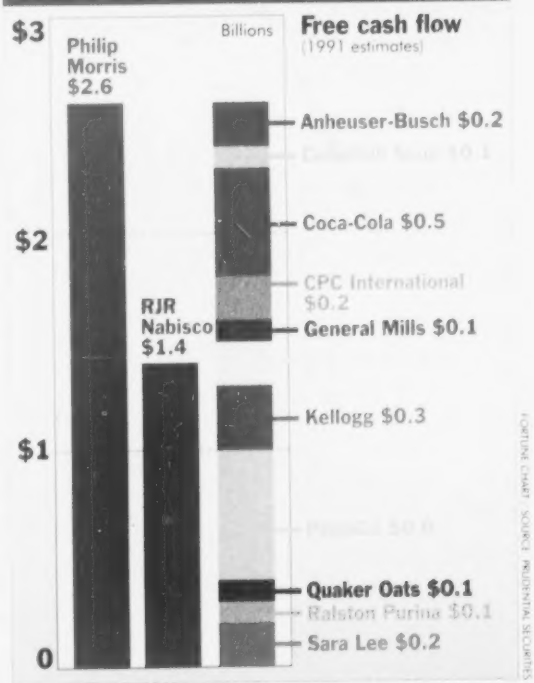
Miles plans to do both, and he will spend the savings a bit differently than his predecessor did. While Maxwell spent $2.5 billion on share repurchases throughout his eight years as CEO, Miles says he probably will dole out $2 billion over the next two years alone.

The new boss wants to use much of the rest to acquire food and tobacco operations, mostly outside the U.S. Philip Morris already has annual international revenues of $15 billion, more than Coca-Cola, PepsiCo, and Kellogg combined. And though weakened at home, Marlboro, a $10-billion-a-year brand worldwide, is a racehorse abroad as markets in Asia, Eastern Europe, and the former Soviet Union have opened. Says Miles: "Our international business will grow more rapidly than the domestic through the Nineties."

But for all his plans for global expansion, Miles knows only one business can keep profit growth apace with the past: U.S. tobacco.

Understanding the trouble in tobacco-

THE KING OF CASH



Philip Morris generates almost $500,000 an hour—more than most food companies combined. The other big food and tobacco company, RJR Nabisco, is a distant second.

REPORTER ASSOCIATE *Kate Ballen*

PHOTOGRAPH BY MICHAEL O'NEILL

land requires knowing why the business has burned so brightly for so long: inordinate pricing power. According to the U.S. Labor Department, the tobacco industry's 10% average annual price increases over the past 11 years exceeded those of any other product, including hospital rooms and prescription drugs. Since nicotine junkies didn't seem to resist stiff price hikes, Philip Morris U.S.A.'s sales went up 9% to $9.4 billion in 1991, and operating profits rose even faster to reach $4.8 billion. Operating margin: a fabulous 51%, up from 42% seven years ago. Philip Morris's gains in market share are impressive too—43.3% of total U.S. cigarette sales today, vs. 35.9% in 1985.

The robust pricing showed its first signs of wobbling in the early 1980s. Smaller companies that had lost customers, such as Liggett Group and Brown & Williamson, a subsidiary of England's BAT Industries, seized on the idea of keeping their factories running by producing cheaper smokes with lower-cost tobacco and less marketing support.

Philip Morris management initially spurned the idea of selling less profitable brands but watched its smokers switching to the cheap cigarettes. "By 1985 we'd seen enough," recalls William Campbell, chief executive of Philip Morris U.S.A. "The emergence of the discount segment and its tremendous growth are the primary events transforming our industry."

Philip Morris was itself transformed, and last year the company became the market leader in the low-priced segment. Now 17% of the cigarettes Philip Morris U.S.A. sells are discount brands, with names like Cambridge, Alpine, Bristol, and Bucks.

Trouble is, by legitimizing the category, Philip Morris seems to have created a monster. Says Emanuel Goldman, who follows the company for Paine Webber: "The discount segment has come from nowhere, from 11% of industry sales just three years ago to 25% today. *The* issue for Philip Morris going forward is, What is the continuing rate of growth? If the discount category goes from 25% to 30%, then to 35% or 40%, the company's ability to raise prices at historical rates may be jeopardized." If Philip Morris loses its wonderful pricing power, those terrific margins will probably fade.

MICHAEL O'NEILL

Marlboro Woman Nancy Lund is the face behind the biggest brand.

NOVASTOCK, PHOTO RESEARCHERS

The big cheese at Kraft General Foods, Mayer faces profit problems.

Of course, the company could help profits by raising prices on the cheap brands. Last year that's exactly what Philip Morris and other tobacco marketers did. They pushed up prices of the discount smokes more than 20%, vs. 10% for full-priced cigarettes. Now, with the price gap between discount and premium brands narrowed, the "cheap" brands are not so cheap anymore, and the question is: Are consumers so price-sensitive that they will continue to trade down to less expensive labels?

Bill Campbell & Co. are trying to keep Philip Morris from living off discount brands. After spending heavily to promote Philip Morris's low-priced cigarettes in 1990 and early 1991, he is pouring money back into Merit and Marlboro. In February, Philip Morris U.S.A. launched a new version of Merit called Merit Ultima, with super-low tar and nicotine. Last summer it spent an estimated $60 million, a record for a new cigarette, to advertise Marlboro Medium, the first offspring of that brand in 20 years.

Marlboro Medium, which is milder than traditional Marlboro but draws on smokers who find Marlboro Lights unmanly, was the idea of a woman, Nancy Brennan Lund, 39, Vice president for Marlboro, Lund had to push her concept through the layers of management for five years before the bosses relented. Recalls Campbell, 47, "A lot of us hated the name, and we said, 'Why don't you call it Marlboro Middle-of-the-Road or Marlboro Mediocre, Nancy?' " Marlboro Medium should bring in over $750 million, hardly mediocre, in first-year revenues, and has helped reverse Marlboro's overall volume decline.

Marlboro is riding taller in the saddle than other full-priced brands, but can it continue to expand? Miles says, "We are planning to grow Marlboro volume in the U.S." Marlboro Woman Lund isn't so sure. She sees the brand's 26% domestic market share increasing, but not its volume.

TO PUMP UP SALES of all brands, Philip Morris is engaging in two troublesome tactics. First, it has been moving aggressively to ship extra cases into distributors' warehouses and record them as sales, a practice generally known as trade loading. Philip Morris's

activity is not as dangerous as the loading that R.J. Reynolds engaged in several years ago. Reynolds, a subsidiary of RJR Nabisco, lined distributors' warehouses each month in order to hide market share declines. Quitting this behavior cost Reynolds an earnings shortfall of $360 million in 1989, with the money spent to trim production and eliminate inventories. Today all tobacco manufacturers limit the amount of cigarettes that distributors may buy before price increases, but Philip Morris is significantly more generous than RJR.

"A tobacco victory [in the Supreme Court] could take Philip Morris's stock up 20%."

Campbell defends the practice: "Our objective is to get Marlboro's inventory up in the stores, where we typically have a 26% share of the market but only 11% of the shelf space. We think keeping pressure on the distribution channels is a good idea." "Wrong," says a former Philip Morris executive who has studied trade loading. "Just because you load the warehouses doesn't mean more cigarettes make it into the stores. What Philip Morris is doing is a financial game to make their sales and profit targets."

The second worrisome tactic is Philip Morris's drive to sell the cheapest smokes it can make, black-and-white generics. For years the company has produced relatively small amounts of these low-profit cigarettes. You've probably seen them in unadorned packs in places like Wal-Mart, bearing such names as Best Buy, Basic, and Gridlock: The Commuter's Cigarette—in California, of course.

From 1990 to 1991, Philip Morris nearly tripled its sales of black-and-whites to 9.8 billion cigarettes, almost the volume of Marlboro Medium. Campbell's rationale: He wants to participate in every major cigarette category. And growth in black-and-whites helps him meet his goal of lifting Philip Morris's U.S. market share at least a point a year. How, though, can feeding cheap, low-profit generic cigarettes into the marketplace help profitability? Says Campbell, somewhat exasperated by the query: "What's good for the consumer is good for the industry. How do you like that? That's pretty good, isn't it?"

The test is ultimately whether Philip Morris can sell enough cigarettes at a good price to sustain U.S. tobacco's recent 14% earnings growth. Analyst Goldman considers the stock a strong buy but says: "They need 13% to 14% earnings growth in the domestic tobacco business to sustain 20% increases in earnings per share. That's the comfort level, though they may be able to get by with 12% growth." Campbell says that during the next few years he is shooting for "low double-digit growth in operating earnings. Some years we'll be a bit higher and some a bit lower."

Philip Morris stock, recently trading at $75 a share, sells at 13.6 times projected earnings, trailing the market. That's partly because investors remain fixed on tobacco's legal exposure, concerned that an important Supreme Court ruling, expected by this summer, will go against the industry. The market is probably overreacting. The Supreme Court will decide whether the federally mandated warning labels that began appearing on cigarette packs in 1966 bar related claims in state courts.

Analysts who have studied the situation say a ruling for the plaintiff, Rose Cipollone, simply would mean more individuals will file suit. No tobacco company has ever lost a liability case or paid a penny to settle, juries being of the opinion that smokers have been adequately warned that cigarettes can ruin their health. Says John McMillin of Prudential Securities: "A Supreme Court ruling against the industry has limited downside for the stock because worries have already pulled down the price. A tobacco victory could mean the end of major litigation risk and take Philip Morris's stock up 15% to 20%."

Where, you may ask, is Miles amidst the difficulties? Keeping his nose out of tobacco. Not exactly a wander-the-halls manager, Miles remains a mystery man to the rank-and-file at Philip Morris U.S.A. A new cost-cutting program there prompted rumors that the humorless food guy had ridden into Marlboro Country to spoil the free-spending fun. Says Miles: "Absolutely wrong. All of the adjustments or cuts or whatever word you want to use have been initiated by Bill Campbell and Philip Morris U.S.A."

By eliminating layers of plant management and reducing overhead at headquarters, Campbell plans to save $75 million, a modest 1% of costs this year, though there is surely more pain to come. Campbell appears to be a more hard-boiled boss than Miles: "The don't-fix-it mentality is what got IBM, General Motors, and Sears in trouble," he says. "They didn't fall apart from a blowout. They're dying from a slow leak. Contrast their approach with the Japanese model of continuous improvement."

MILES'S ROLE as cool observer of Campbell's action plan is no surprise given his history. Straight out of Northwestern University's Medill School of Journalism, where he majored in advertising, Miles joined ad agency Leo Burnett and was known there for a logical, rational approach. "Good advertising is advertising that sells, period. Just the facts, ma'am," he says today. Hicks Waldron, former chairman of Heublein, which hired Miles away from Burnett at age 31, says, "Mike was the most professional thing I had come across

JOHN ABBOTT

Australian Geoffrey Bible runs food and tobacco abroad.

The cowboy rides high in Turkey. Philip Morris sells 90% of all imported cigarettes there.

in a long time. His creativity is that he can sort out the creative ideas of others rather than come up with them himself." Miles turned around Heublein's Kentucky Fried Chicken chain by devising a strategy that emphasized quality and service, and at Kraft he perked up the marketing by pushing new products. Miles hits his desk by 7 A.M. and thinks about business every minute of his life. Even in his sleep, some say.

Composed, even icy at times, Miles leaves underlings wondering what he is really thinking. At meetings with managers, he speaks sparingly, preferring to offer his "2 cents," short and concise, on paper later. He explains, "Decision-making authority should be as close to the actual implementation as possible." At parties he abhors small talk and often settles in a corner chair, alone.

SOMETIMES his sobriety and rationality appear extreme. During a rare social excursion five years ago, he went rafting in British Columbia with 11 other executives. When the raft flipped in fast-moving rapids, five of his companions died. Asked whether the accident has affected the way he views life or his work, Miles says, "No, it hasn't. It was obviously a terrible tragedy for families involved with the fatalities and a watershed experience for the two or three people who were carried a long way down the river and survived. I actually was in the water for less than two minutes and got out quickly and never worried about being rescued. As I look back on it, it was as bizarre a twist of fate as jaywalking across Park Avenue and having the person next to you get run over. For me personally, it wasn't that traumatic an event in my life." He adds: "I once had a garden tractor almost roll over on me. That scared me."

As head of Kraft General Foods, formed after Philip Morris bought Kraft, Miles made Hamish Maxwell's diversification strategy work. Up to that time, top managers at General Foods, acquired three years earlier, had resented their parent and insisted that old brands like Maxwell House and Post could not increase sales very much.

Miles stressed growth and revamped advertising. Today at the once laggard General Foods U.S.A., sales of leading products such as Kool-Aid, Jell-O, and Grape Nuts cereal are expanding again. Operating profits rose to more than $700 million last year, vs. $433 million in 1989.

But, of all things, Kraft's cheese division turned soft, the aftermath of bad pricing decisions made under Miles's leadership. During the past two years, prices for milk—*the* cost of goods in cheese, of course—turned volatile, and while private-label cheese producers kept their prices down, Kraft priced its products much higher. As Miles explains, the steep pricing was a remnant of an expensive anti-takeover plan that he and Kraft management devised before the hostile bid by Philip Morris. The plan called for extremely high returns in cheese, and, once ensconced in the Philip Morris fold, Kraft stuck to the aggressive targets. Cheese margins were supposed to improve from the low teens to the high teens.

Clearly, Kraft managers outfoxed themselves. The private-label brands devoured chunks of the U.S. cheese market. By the time Kraft started slicing prices last year—as much as 14% on Cracker Barrel—retailers were living quite nicely off their store brands. In some cases, say industry analysts, they refused to pass on Kraft's price cuts to consumers. The pricing foibles led to last year's $125 million—at least 20%—shortfall in expected cheese profits.

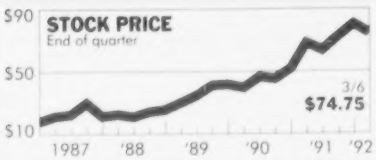
Now the food marketers, like the folks at Philip Morris U.S.A., acknowledge that pricing their way to high profits is a luxury of the past. Richard Mayer, who took over KGF North America when Miles became the parent's CEO, says that he expects General Foods' operating income to be up more than 15% as its recovery rolls ahead, but Kraft's prices and profits will likely be flat. "We need to do what is necessary to make sure America continues to spell cheese K-R-A-F-T," says Mayer, 52, a friend of Miles from their Heublein days. He continues: "We're not viewing this recession as a short-term phenomenon. We see a much more price-sensitive consumer, a narrowing of the quality gap between private-label and branded manufacturers' goods, and profound changes in the retail trade toward low-price operators."

Misreading consumer demand led KGF to overbuild, and a $455 million pretax write-off against 1991 earnings will cover the cost of some plant closings. Now Mayer is preaching volume growth. "Without it a company doesn't have a long-term future," he says. He is driving the message home by revamping compensation to emphasize revenue and market share goals more than profit targets.

"We're not viewing this recession as a short-term phenomenon." Consumers have changed.

Kraft's product line doesn't exactly scream growth, however. Mayonnaise and macaroni-and-cheese dinners are not on the shopping lists of fat-phobic, convenience-oriented shop-

PHILIP MORRIS



The stock stopped smoking after a decline in net income in 1991. Earnings rose 21% before a restructuring charge and an accounting adjustment.

SALES (latest four quarters) Change from year earlier	**$48.1 billion** Up 8.4%
NET PROFIT	**$3.0 billion** Down 15.1%
RETURN ON EQUITY	**24.0%**
TOTAL RETURN TO INVESTORS 2/27/87–2/28/92 (annual rate)	**35.6%**
PRICE/EARNINGS MULTIPLE	**23.0**
DIVIDEND YIELD	**2.4%**

pers. Although KGF sells more low-fat and fat-free versions of its foods than any other company, future growth from these better-for-you products "will not be transforming," as Mayer says, using a favorite corporate expression.

Moreover, marketing spending is not flowing so freely. Flush with cost savings from combining Kraft and General Foods, Miles jacked up marketing expenses 23% in 1990 and 16% in 1991. But this year they will be virtually flat.

Mayer has two ideas that he believes can "transform" Kraft General Foods—or at least provide a competitive edge. The first is to get market research and computer people working in teams with brand managers so that everyone better interprets the zillions of sales data generated by supermarket scanners. The strategy should help the company respond quickly to competitors' moves.

The other big idea is to distribute all KGF products within a particular region from a single warehouse. The logic: to serve customers better. Retailers typically buy 10% of all their grocery items from KGF but draw from many different warehouses. Last fall in Norcross, Georgia, near Atlanta, KGF set up its first one-stop-shopping center in a warehouse formerly used for General Electric air conditioners.

Once fully rigged with KGF's computer gear, the center probably will be the largest and most sophisticated food warehouse in the country. Notes Miles: "Norcross is what I hope all productivity activities are: efficiency inextricably linked to quality."

Though his domestic table is modest, Miles can feast on Philip Morris's international opportunities. Consider: The market for cigarettes outside the U.S. in 1980 was 3.9 trillion units, and only 40% was open to Western companies. Today consumers abroad are smoking 4.9 trillion cigarettes a year, and the relaxation of trade barriers in places like Japan, Eastern Europe, and to some extent China gives Philip Morris a chance to reach 95% of those smokers.

Says Geoffrey Bible, who heads international food and tobacco: "We have moved from a potential market of 1.6 trillion cigarettes to one of more than 4.6 trillion units." Philip Morris sold 640 billion, or 11.6%, of the world's cigarettes last year. That makes the company the second-largest seller behind the Chinese government, which in 1991 churned out over 1.5 trillion. Philip Morris, though, is the fastest-growing producer by far. And the most profitable. And the best-positioned to seize market opportunities.

"We have moved from a potential market of 1.6 trillion cigarettes to more than 4.6 trillion."

THE COMPANY'S global strength developed from domestic weakness. A feeble No. 6 among U.S. tobacco sellers during the 1950s, Philip Morris was so desperate to attract customers that it started selling its cigarettes in duty-free shops in foreign countries where Americans liked to travel. While R.J. Reynolds, then the U.S. market leader, focused on its Camel and Winston brands domestically, Philip Morris hired international managers and licensed its cigarettes in markets closed to imports.

One interesting byproduct of this early internationalism is a senior operating management more global than most companies'. While Miles and Mayer are Americans by birth, former CEO Maxwell is a Scot. Bill Campbell is Canadian, and David Dangoor, Philip Morris U.S.A.'s marketing boss, is an Iranian schooled in Sweden. Two of the three bosses Miles beat for the CEO spot are Australian: Bible, the international chief, and William Murray, president and chief operating officer. The third is chief financial officer Hans Storr, from Germany. He trots the globe shopping for the cheapest loans.

One of Philip Morris's biggest challenges abroad is penetrating markets where governments control prices, levy huge taxes, and even peddle their own brands. How do you deal with the Taiwanese government's Long Life cigarettes and the Japanese monopoly's Dean—for James Dean? Says Bible: "We find it's better to work with the governments, vs. playing their fierce opponent."

Easier said than done. Last year in Hong Kong a 200% tax increase on imported cigarettes doubled the price of a pack of Marlboro and sent Philip Morris's sales sliding 80%. After employees and friends gathered 75,000 signatures of huffy smokers, officials cut the tax in half.

In Italy, the company got tangled in a government crackdown on illegal cigarette imports that avoid high Italian taxes. Italy imposed a one-month ban on Marlboro, Merit, and Muratti, a popular local blend, after these brands were seized in an eight-ton truckload of bootlegged butts near the northern border. The company's protest that it can't control bootleggers fell on deaf ears. Bible says that he and Alcardo Buzzi, chief of Philip Morris's international tobacco operations, spent two weeks negotiating a truce with officials. Philip Morris agreed to mark Italian-bound cigarettes to distinguish them from illegal products.

International tobacco's profit margins are half those 51% returns in the U.S. But ample gains—profits rose 24% in 1991 on a 14% increase in revenues—encourage managers to invest more. The question, of course, is where. Walter Thoma, who runs Philip Morris's tobacco operations in the European Community, says he wants to build "a huge factory" because his sales volume has risen 25% during the past three years.

Hearing that, CFO Storr rolls his eyes and plays penny-wise banker: "If you give all of these operating managers who want to build state-of-the-art plants everything on their wish list, we'd have no free cash." Storr is opening the corporate purse for expansion eastward.

Last month in Turkey, which management views as "the gateway to the east"—meaning Central Asia and the former Soviet Union—Philip Morris broke ground on a $400 million cigarette factory. Because of taxes, Marlboros cost twice as much as the government's brands, but Turkish officials agreed to lower levies once Philip Morris begins manufacturing, probably next year.

Philip Morris in 1990 also bought three deteriorating East German factories that churn out the leading local cigarette, F6. Instead of toning down the taste and spiffing

up the package—as some competitors did with East German brands that they acquired—Philip Morris kept F6 the same. By not Westernizing the harsh, high-tar cigarettes, the company improved F6's market share to about 35% from 27%. In less than a year Philip Morris earned a profit on its estimated $20 million investment.

To meet high demand for exports, Philip Morris is even adding $400 million in new capacity stateside, at its Cabarrus, North Carolina, factory. Last year the company shipped 22 billion cigarettes to the former Soviet Union, its largest order ever and equal to one-tenth of its U.S. volume. By 1997 management wants to sell 80 billion to 100 billion cigarettes a year in the former Soviet Union. Philip Morris barters its cigarettes for products—probably gold and oil, though management will not say—that are readily exchangeable for dollars. That way, it takes hard currency out of the market and even earns a profit—an estimated $75 million last year.

Everyone wants to know: Where will Miles next drop his big bag of cash?

The cigarette seller's strides abroad get a food marketer's heart beating wildly. Says Miles: "When you see the enormous success the international tobacco company has had, it provides that much more inspiration for our food managers to stick with the fight, to chase the opportunity. And inspiration is a very important part of what motivates people."

Every Philip Morris watcher wants to know: Where will Miles next drop his big bag of cash? "I can tell you that we would not go outside consumer packaged goods, for sure. We're focused primarily on international," says the boss. Since acquisition opportunities in tobacco are limited, figure on food, probably in Western Europe, within the coming year or so. In 1990 Philip Morris bought one of Europe's largest coffee and chocolate companies, Jacobs Suchard, well known for those Alp-angled, nougat-specked Toblerone candy bars. The $4.1 billion deal made Philip Morris the third-largest food marketer in Europe, behind Nestlé and Unilever. Says Bible: "Our revenues today are approaching $10 billion in food, and Nestlé has about $15 billion in European sales. But with acquisitions, we'll grow faster than they will. We'll be on Nestlé's tail."

At Kraft, Miles kept a short list of acquisition targets, and some of the same companies are believed to be on his list today. One is H.J. Heinz, a European powerhouse. But Miles figures that CEO Tony O'Reilly has squeezed costs so dutifully that post-acquisition savings would be too slight to make a deal worthwhile.

"I would be willing to do a hostile bid for a company," says Miles. "The Kraft acquisition started off as hostile and ended up officially, I guess, hostile. And the people of Kraft have learned that being part of this larger family can be very good."

Is PepsiCo a target? Doubtful, for Philip Morris professes no love for a No. 2 soft drink player. Cadbury Schweppes would give Philip Morris a bigger bite of European chocolate. Says Bible: "Yes, but only in Britain." CPC International? "I'm not looking at it," he says. The best catch: Paris-based BSN, which would help Philip Morris get the French, who cannot fathom Velveeta, to at least taste its other cheeses, such as Cracker Barrel and Kraft Natural. Says Bible: "Their government would never let us buy BSN."

Successful acquisitions are crucial to Philip Morris, and to Miles, whose hotshot reputation is at stake. If the company expands operating earnings around 15% each year, it can still raise per share net income at that magical 20% rate by borrowing heavily for acquisitions, then tapping the cash-flow fountain to rapidly pay back debt. That way interest costs go down quickly.

CAN MILES keep up the pace? To do so might require $85 billion in sales by 1995, with net income of $9 billion. That will mean buying businesses abroad that provide good returns and keeping domestic operations healthy enough to pay for the acquisitions.

Philip Morris U.S.A. and KGF North America, the source of more than two-thirds of corporate profits, have serious pricing problems and growth difficulties. But managers are busily working on them. If problems persist and the 20% profit growth goal becomes elusive, don't be surprised if Miles proves himself a man of action. Though comfortable amidst the worries, he may throw in more than just his 2 cents, and play the revolutionary more than he ever intended. F

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APRIL 20, 1992 VOL. 125, NO. 8

FORTUNE 500

THE FORTUNE 500/SPECIAL REPORT

GUIDE TO THE 500 211
Welcome to the most user-friendly FORTUNE 500 directory yet. This year we've added two new sections—one to help you find the star performers and a second showing headquarters by state, phone numbers, and CEOs.

INTRODUCTION: IT WAS THE WORST OF YEARS 212
Profits were an unparalleled disaster, falling 41%, and more than 20% of the 500 lost money. But the pain is paving the way for gains: 1992 is likely to bring a dramatic rebound in earnings as American industry tackles the mistakes of the past and girds for the fierce competition lying ahead.
by Alison Rogers and Ricardo Sookdeo

THE FORTUNE 500 RANKED BY SALES 220
The classic list.

DEFINITIONS, EXPLANATIONS, AND NOTES 242

ARRIVALS AND DEPARTURES 246

THE 500 RANKED BY PERFORMANCE 249
In the first of our new sections, we rank the top 50 companies in each of 12 categories, from profits, market value, and investment performance to returns on sales, assets, and stockholders' equity.

THE 500 BY INDUSTRY 259
Broken down by their main lines of business, the 500 provide a panoramic view of a tough year. FORTUNE analyzes how companies stack up against competitors in their industries by sales, profits, and ten other measures.

INDUSTRY MEDIANS 287

THE 500 BY STATE 290
Our second addition to the guide tells you where to find the 500 and how they rank within their states by sales and profits. New York leads with 56, followed by Illinois with 46. Texas and California are gaining.

ALPHABETICAL INDEX 315

COVER: Photograph by Roberto Brosan; sculpture by Nicholas Fasciano.

COMPETITION

IS BIG STILL GOOD? 50

Not necessarily. If giant companies are to survive, they have to combine the benefits of size—lots of money, top talent—with the nimbleness of elves. Some already do. *by Brian Dumaine*

AUTOS

IACOCCA'S LAST STAND AT CHRYSLER 63

His anointed successor must launch new models, shore up a shaky balance sheet, and find the controls of the company fast. But is Chairman Lee ready to give them up? *by Alex Taylor III*

TECHNOLOGY

A U.S. COMEBACK IN ELECTRONICS 77

Consumer products featuring a powerful new made-in-America technology called digital signal processing (DSP) could help regain part of a $100 billion market from Japan. *by Gene Bylinsky*

TRAVEL

WHERE THE BARGAINS ARE IN HOTELS 91

Smart travelers know they can get the best rest for less. The continuing hotel glut is forcing even the fanciest inns to give in. Hoteliers count the towels and hang on. *by Faye Rice*

CORPORATE PERFORMANCE

BETTING ON THE 21ST CENTURY JET 102

Boeing is gambling billions on the 777 and notching up the risk with a radical computer-aided design and an untested notion about worker participation. Here's why. *by Jeremy Main*

LYONDELL PETROCHEMICAL: HOW TO LIVE BY YOUR WITS 119

An ingenious staff has adroitly worked its technology into unrivaled flexibility: It can process any crude oil in the world. *by Peter Nulty*

TOPPS CO.: TIMELINESS IS EVERYTHING 120

The winning streak of this baseball card and gum maker owes much to an extraordinary ability to capitalize on fads fast. *by Richard S. Teitelbaum*

COMPANIES TO WATCH 125

Nellcor is thriving by licensing the technology for the sensor on its popular blood oxygen gauge, used in surgery. Also: Lannet Data Communications and Charter Golf. *by Shelley Neumeier*

MONEY & MARKETS

DEALMAKERS FOR THE NINETIES 127

After the Eighties' excesses, the financial hotshots lost much of their swagger. But the best didn't lose that moneymaking magic. They're just playing by new rules. *by Alan Deutschman*

EUROPE

GETTING TOUGH WITH THE JAPANESE 149

Europe is moving to higher trade barriers and more government aid to protect jobs and markets. Trouble is, American as well as Asian exporters could be hurt. *by Carla Rapoport*

THE CASE AGAINST FREE TRADE 159

How to stop the Japanese? Slap on super-high tariffs, says Alain Gomez, chairman of Thomson, the French electronics giant. Free trade, he argues, is an outmoded concept Europe can't afford.

MANAGING

THE NEW CRISIS IN BUSINESS ETHICS 167

To meet goals in these tough times, more managers are cutting ethical corners. The trend hurts both the culprits and their companies, even if they don't get caught. *by Kenneth Labich*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 14

How countries stack up with companies, President Perot's first 100 days, don't believe CEO pay cuts, where Japan's 1,563 U.S. factories are, and more.

FORTUNE FORECAST 23

Exports keep lending strength to the U.S. economy, despite slumps abroad. *by Vivian Brownstein*

Also: Debt is no threat to the recovery.

PERSONAL INVESTING 29

Stocks that beat the tax man—those with returns in the form of capital gains. *by Terence P. Paré*

LETTERS TO FORTUNE 46

FORTUNE PEOPLE 185

Another lap for Mercedes chief, auto bosses on their final stretch, and more. *by Laurie Kretchmar*

KEEPING UP *by Daniel Seligman* 189

"Beware of anybody that gives you simple solutions to complex problems." 14

"Bureaucracy grows faster than anything, and it doesn't even need water." 50

"One hot dog can't like another hot dog." 63

"Western governments must stop prostrating themselves before the ideal of free trade." 159

"People may feel bad about what they're doing, but they rationalize it somehow." 167

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EDITOR'S DESK

PRODUCING A NEW, IMPROVED 500

This year's team for the Industrial 500 lists, clockwise from lower right: editors Burck and Demaree with Catherine Haight, Ricardo Sookdeo, Alison Rogers, David Rile, Jean Held, and Edith Fried

■ After 38 years as the gold standard of business lists, the classic benchmark for charting the size, performance, and tumultuous history of America's biggest industrial corporations, the FORTUNE 500 is not just getting older but also getting better. Like the best companies we chronicle, FORTUNE is listening hard to its customers and constantly striving to improve. For this year's list, we conducted extensive market research using questionnaires and focus groups of readers. The result: a bigger FORTUNE 500 packed with handy new features. Says Charles Burck, who edited the section with executive editor Allan Demaree: "This is the most user-friendly FORTUNE 500 in history."

Reporters Alison Rogers and Ricardo Sookdeo gathered the data and assembled two new sections that swelled the 500 from 40 pages last year to 60 pages. One is the ranking of the 500 companies within their states. "The lists provide a fascinating look at the southern shift in America's corporate geography," says Sookdeo. Since 1965 the number of companies based in New York City has dwindled from 137 to 39, while Houston's roster has grown from one to 16.

Rogers found a carnival of surprises in the second new feature, performance rankings ranging from growth in sales to increases in earnings per share. "Companies that were little known—and far down the list in sales—often had the best results," says Rogers. The 1991 champ in performance for investors: No. 390, Thorn Apple Valley, a meat producer with a total return of 384.6%.

Catherine Haight, who crunched the 500 data single-handedly in the 1960s, supervised the research. Designer Jean Held employed eye-catching graphics to guide you swiftly to the right table. Copy editor Edith Fried, guardian of FORTUNE's grammar, combed the thousands of entries for clarity and style. David Rile wrote 20 computer programs that broke new ground in merging charts, tables, and text. So, all in all, it's a great year for the FORTUNE 500, except for one thing. Hurt by a weak economy, their profits plunged 41%, the worst drop ever. Better luck next year.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October by The Time Inc. Magazine Company, Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Joseph A. Ripp, Treasurer; Peter M. Johnston, Secretary. Subscriptions: U.S. $120 per year ($2.50 per issue); Canada (one year $127 issues) $53.75. Second-class postage paid at New York, NY and additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Postmaster: Send address changes to FORTUNE, P.O. Box 60001, Tampa, FL 33660-0001. Canadian publication agreement number 1058957. GST registration number R122781974. Subscription queries: FORTUNE, P.O. Box 60001, Tampa, FL 33660-0001. Phone: 1-800-621-8000. Single copy sales: 1-800-541-1000. Editorial and Publication Offices: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Printed in U.S.A.

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HOW COUNTRIES STACK UP WITH COMPANIES

■ Our bit for hands across the sea: The top ten industrial companies in this year's FORTUNE 500 are so gargantuan that News/Trends is assigning each a sister country, one whose gross national product for 1990 (the most recent figures available) closely matches the corporation's 1991 revenues.

As it happens, eight of the ten already have a presence in their sister state. In Uusikaupunki, Finland, **General Motors**—still No. 1—is making Opel Calibras in a joint venture with Swedish automaker **Saab**. No. 2 **Exxon** is in Indonesia, drilling for oil in a joint venture with **Mobil** (No. 6). **GE** (No. 5) sells jet engines to Greece's **Olympic Airways**. **Du Pont** (No. 8) produces herbicides and fungicides in Barranquilla, Colombia. **Chevron** (No. 10) sells fuel oil produced by a local refinery in Singapore. That island state, by the way, is gaining on Chevron. The company's 1991 sales dropped 6.3% while Singapore's 1990 GNP rose 20.6%. Indeed, the countries have been doing better overall than the 500: GNPs rose a total 4.2% over the comparable 12-month periods, but the ten companies' sales fell 3.1%.

Members of the top ten are tiptoeing warily into their sister countries in Eastern Europe. **IBM** (No. 4) opened a subsidiary in Poland in October 1991. **Texaco** (No. 9) sells some lubricants in Romania. Although **Philip Morris** (No. 7) has no official presence in Czechoslovakia, Marlboros go for $1.25 a pack, about half the U.S. price.

The exceptions among the top ten to all this sibling activity are **Ford Motor** (No. 3), which divested its South African holdings in 1988, and Mobil, which is steering clear of strife-torn Algeria. **– Rick Tetzeli**

But would Perot, shown in his Dallas office, redo the White House?

PRESIDENT PEROT'S FIRST 100 DAYS

■ In 1988, Ross Perot told FORTUNE how he would turn around **GM**, the company that made him even richer by buying his **EDS** computer services outfit in 1984 and where he served briefly and unhappily as a director. Now the Dallas billionaire has a prescription for the U.S.

Supporters are trying to get him on the presidential ballot in November. Says Perot, 61, who now heads Perot Systems, another data-processing company: "If the 50 states are signed up, I told the people I would run, and I will run." Meanwhile, Perot sounds ever more like a candidate in a cavalcade of TV and public appearances.

Some initiatives voters could expect in the first hundred days of a Ross Perot presidency:

■ "The first thing I would want to do is create what I call the electronic town hall, where I could explain the issues to the people over television." Voters would respond by telephone.

■ He'd set up industry-by-industry task forces, led by CEOs, to devise plans for restoring U.S. competitiveness.

■ He'd balance the budget, even if it takes a constitutional amendment. "The highest priority is to stop the bleeding."

■ He'd eliminate PACs. He's already put a $5 cap on donations to his own campaign.

■ He'd end congressional freebies like haircuts, gyms, and prescription drugs.

The longtime critic of government inefficiency has not gone into great detail as to how he would put such changes into effect. And as he said himself recently at the National Press Club, "Beware of anybody that gives you simple solutions to complex problems." **– R.T.**

GIVING MBAs A RUN FOR THEIR MONEY

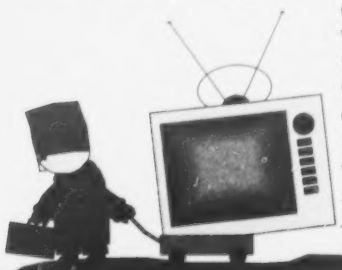
■ Here's a happy lesson in the law of supply and demand for new grads in chemical engi-

Engineer Rosellen Chan, at Cooper Union, has found a job with Merck.

neering: U.S. colleges awarded only 3,612 such degrees in 1991, vs. 7,685 in 1984 when the decline began. Result: Average starting salaries are now an estimated $39,367, a 44% increase, unadjusted for inflation, over what they were then. That means chemical engineers have almost caught up to MBAs with bachelor's degrees in technical subjects and one year's on-the-job experience.

Traditionally MBAs' salaries rise dramatically throughout their careers, while those of chemical engineers level off. Thus it still seems probable that the new crop of engineers will have to broaden their experience if they want to keep pace with their MBA cohorts. One 1991 grad thinks she can do just that with her first job. Rosellen Chan, 21, a senior at New York City's highly respected Cooper Union, starts work in September for drugmaker **Merck**. Not only is her salary well above the national average, but, she says, "at Merck I can expand beyond pure chemical engineering into other areas like marketing and research and development."

Merck, a perennial winner in FORTUNE's annual Most Admired Corporations survey, places third among the employers that new engineers most want to work for, according to the Hanigan Consulting Group, which helps corporate clients plan on-campus recruiting. **IBM** was first, **Procter & Gamble** second. **– R.T.**

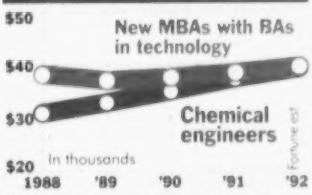


A car equals 15 years of a teacher's salary, nine months of a manager's.

HOW MANY HOURS MUSCOVITES MUST WORK TO BUY . . .

OCCUPATION	CAR (Volga)	COLOR TELEVISION	MAN'S SUIT	DINNER FOR TWO	CRAB LEGS (1 lb.)	BREAD (1 loaf)	MILK (1 quart)	BEEF (1 lb.)
State factory manager	6,914	127	33	5.3	0.7	.04	.02	0.3
Coal miner	8,666	160	41	6.5	0.8	.05	.02	0.4
Bus driver	26,000	480	125	20	2.3	.16	.07	1.4
Lawyer	39,393	770	200	32	3.6	.26	.11	2.0
Construction worker	39,393	770	200	32	3.6	.26	.11	2.0
Doctor	87,837	1,620	422	67	7.7	.50	.24	4.5
Schoolteacher	130,000	2,400	625	100	11.8	.84	.37	6.4

STARTING SALARIES



FORTUNE TABLE | SOURCE: COLLEGE PLACEMENT COUNCIL

WHO CAN AFFORD WHAT IN MOSCOW

■ After three months of free-market shock therapy, the Russian government estimates that 90% of its 145 million people now live below the official poverty line. The average wage of 875 rubles per month falls way short of the 1,500 rubles that Moscow says Russians need to make ends meet.

Thus it may seem small comfort to Russians that after a long period of empty shelves, stores are now brimming with food, clothing, and consumer goods. As the table shows, people would have to work for months, and spend all their pay, to buy some items now available—even doctors, who make far less than bus drivers.

Russian Premier Boris Yeltsin's moves to put the economy on a supply-and-demand basis seem to be achieving a big objective: All but the poorest Russians are raiding their mattresses and releasing billions of hoarded rubles into the economy, a vital step if the currency is to achieve international convertibility. Helping this happen: a new class of entrepreneurs like commodity dealers and, surprise, those who run or work at ad agencies. Many of them are indulging in that most capitalistic of traits, conspicuous spending. **– Paul Hofheinz**

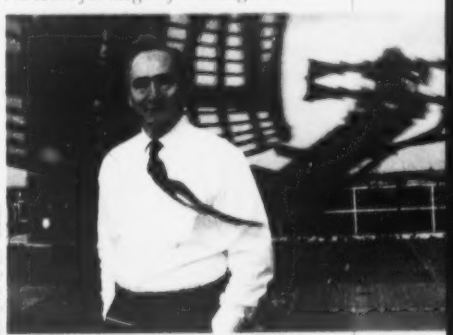
DON'T BELIEVE THOSE CEO PAY CUTS

■ The headlines were startling: IBM CHAIRMAN'S '91 PAY LIKELY TO FALL 40%. And several days later: WESTINGHOUSE CUT LEGO'S PAY BY $1.5 MILLION. It looked like rationality creeping into the wacky world of CEO pay at two troubled companies. Well, disabuse yourself of illusion. Both stories are wrong.

Paul Lego, CEO of **Westinghouse Electric**, did get $1.5 million less in cash last year—garnering about $700,000, vs. $2.2 million in 1990—and that seemed like justice in light of Westinghouse's $1.1 billion 1991 loss. But he also received two monster stock option grants totaling 700,000 shares. Because the stock has since risen, Lego has already made back more than $1 million on paper—and the options are good until 2001. Value all forms of his compensation in both years, and he didn't take a pay cut at all—he got a 59% raise, to about $5.9 million.

John Akers of **IBM** really did

No tears for Lego of Westinghouse



take a cut, but nothing like the reported 40%. Add in the present value of the stock options and restricted stock he received, and Akers's package was worth not the $1.6 million you may have read about but about $5.5 million. That's a less impressive 26% cut from 1990.

As the furor over CEO pay widens, watch—skeptically—for more companies to report drops in the chief executive's compensation. Without considering the value of options, you'll never get the whole picture—which is why the SEC is thinking of requiring companies to report option values. At least it would stop those nutty headlines. **– Geoffrey Colvin**

JAPAN'S U.S. PLANTS UP 9% IN 1991

■ Every state but North Dakota is now home to at least one Japanese-affiliated factory, most of them wholly owned by a Japanese company, according to a new survey by the Japan External Trade Organization. The government group found that as of September 1991, Japanese companies owned 10% or more of 1,563 plants in the U.S., vs. 1,435 in 1990. Total number of employees in these U.S. factories rose to about 350,000, from 300,000 in 1990. As the map shows, California has the most plants. North Dakota, meanwhile, expects to join the club in 1993.

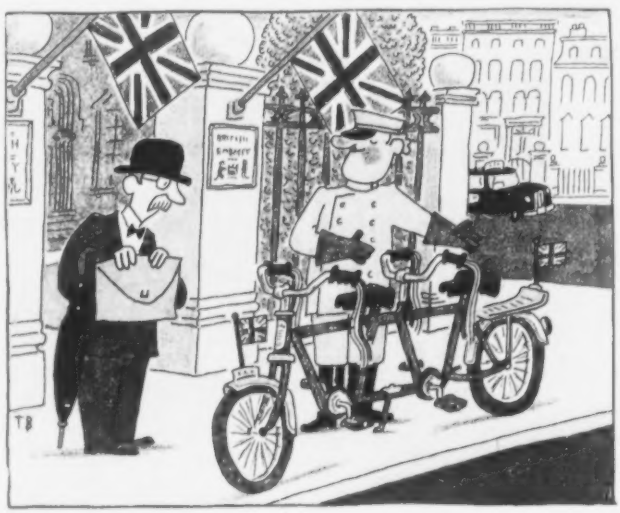
For all this, the trend toward building plants and buying others peaked in the late 1980s as Japanese automakers set up U.S. factories. First-time investments reached $10.6 billion in 1988 but fell to $3.9 billion in 1990. Last year it was probably down again, though the exact numbers aren't available yet. Japanese makers of electric and electronic equipment are proving the most persistent investors. Example: Hitachi Electronic Devices U.S., wholly owned by **Hitachi**, has begun to turn out cathode ray tubes for TVs at its new plant in Greenville, South Carolina.

Other forms of Japanese investment are dropping precipi-

ROLLS AND PORSCHE: BLIMEY, MATE—*UND GOTT IM HIMMEL!*

■ Whatever next, chaps! Sir David Hannay, Britain's Ambassador to the United Nations, has had to turn in his 1989 Silver Spur Rolls-Royce. He's now being chauffeured around in a made-in-the-Colonies Lincoln Continental.

Hannay is not the only envoy so humbled. Her Majesty's government has yanked most of its ambassadors out of their traditional Rolls into something, well, less expensive. Most have a choice (with a suggested limit of $85,000, vs. $183,000 for a new Silver Spur, say), like Range Rovers, made by Britain's troubled **Rover Group**, or Jaguars, made by **Ford Motor**. Only the ambassadors to Bonn, Paris, Washington, and Tokyo have dodged the pinchpenny restructuring. So has the Queen, whose fleet of cars includes five Rolls-Royces.



The snub hits the **Vickers** subsidiary at a bad time. Sales plummeted from a record 3,333 autos in 1990 to 1,722 last year. While prices have yet to drop substantially on new cars, falling demand continues to mean big bargains in used models, which somehow never seemed to catch collectors' eyes. Just $17,000, the price of a new Dodge minivan, will put you into the 18-foot, 13-miles-per-gallon 1977 Silver Shadow currently on sale in the city of Leicester. Sought-after 1950s Silver Clouds have tumbled from around $45,000 in 1989 to about $25,000.

This $53,900 Porsche doesn't even have a radio.

■ Porsche is bringing out a less expensive version of its 911 Carrera (U.S. sticker price: $63,900) exclusively for the U.S. market. But the $10,000 saving means that buyers of the RS America, as the model shown above is called, will have to tolerate some privations. You get corduroy seat covers, for example, instead of leather, and a nylon strap to open the door from inside instead of a handle. And sorry, no radio.

Other sacrifices: The car, which is due in showrooms this month, comes stripped of most of its sound-deadening material and has stiffer springs and shock absorbers, along with manual rather than electronic controls to adjust the seats. The German automaker already reports "substantial" orders for the new hot rod. That should help Porsche's performance in the U.S., where the number of cars sold last year dropped to 4,400, vs. 9,140 in 1990. **– Carla Rapoport**

IACOCCA'S LAST STAND AT CHRYSLER

His anointed successor must launch new models, shore up a shaky balance sheet, and find the controls of the company fast. But is Chairman Lee ready to give them up? ■ *by Alex Taylor III*

CONFRONTED with a crisis, Lee Iacocca has always responded by stirring things up: Hire a new executive, change titles, rearrange reporting responsibilities. Now facing his biggest challenge—disengaging from 13 years on Chrysler's throne—Iacocca, 67, has done it again. But by bringing in an outsider, General Motors executive Robert J. Eaton, to succeed him as CEO, he has set up a combustible situation. Any number of events could cause ignition, and the resulting firestorm—a massive exodus of top executives, say—could easily harm the company.

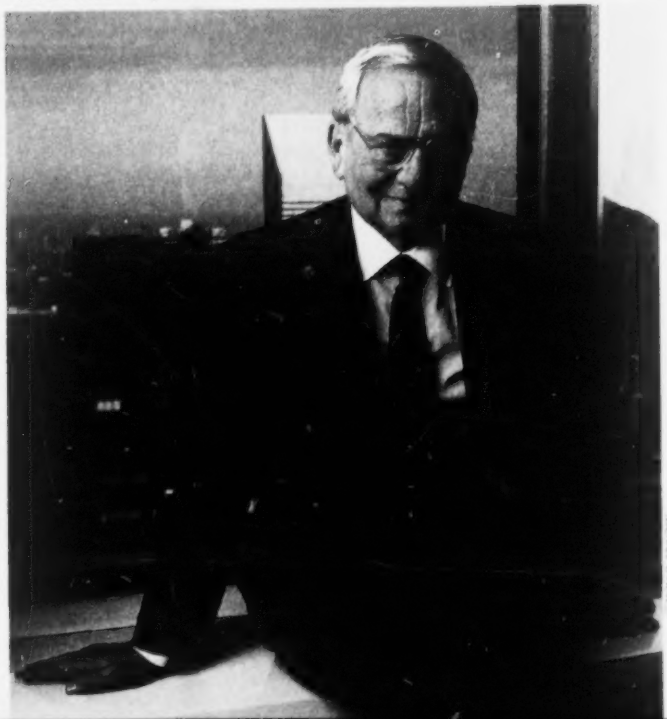
For the past three years Chrysler has been running on empty. With car and truck sales tumbling, it has been hoarding scarce cash to fund the new models that it desperately needs. Now, with those new models on the cusp of introduction, Eaton, 52, moves in as vice chairman and chief operating officer. He's confident. "I have a strong background in product and manufacturing, and at least enough marketing and finance to run a successful business," he says. But even though Chrysler—No. 11 in the FORTUNE 500—is only a quarter the size of No. 1 GM, he'll need months, perhaps a couple of years, to find all the levers.

While Eaton is going through on-the-job training, he has to prove himself to his volatile boss. Forget what Iacocca says about retirement and golf. After years of living like the reigning monarch of autodom (planes, hotel suites, even the two houses the company bought from him), he's unlikely to turn up in a ticket line at Detroit Metro airport anytime soon. Iacocca is the biggest threat to Eaton's success because he *still* doesn't want to quit. Associates call him a man who can't let go.

Their publicly announced agreement has Eaton taking over as CEO on December 31, with Iacocca moving to chairman of the executive committee. Eaton says he understands Iacocca will step down from that post at the end of 1993. But in a FORTUNE interview, Iacocca talked as if he plans to stay on until he turns 70, in October 1994. He has already picked out a role as Chrysler's spokesman to the world. Says he: "The first couple of years, he [Eaton] wants to get his hands on the product and the dealer organization. Mr. Outside [Iacocca] will do what's right for the company and right for Eaton. Remember, the board didn't ask me to step aside. I'm still virile and strong, and I want to see this company do more than just get by. It's his show to run, but I know the press better, the bankers better, the Washington people. I've got to use that because it's good for the company."

New to an operating job, Eaton has to learn how to run Chrysler *and* get along with his famous boss.

"Mr. Outside"—spokesman to the world—is how Iacocca sees his new role.



In Detroit parlance, Eaton is a "car guy," not a "bean counter"—but for Chrysler to prosper, its perilous finances are going to require a lot of his attention. After losing $795 million last year, the company saw its cash on hand shrink to $3 billion at the end of 1991. (The till has since been bolstered by $836 million from a private placement.) Analysts figure Chrysler will lose about another $150 million in this year's first quarter. Chrysler Financial Corp. has lines of credit worth $6.8 billion expiring in 1993 that must be renegotiated with 160 different banks. Chrysler has to have the money to lend out to new car buyers. People close to the situation expect the loans to be renewed but worry about the price the banks will demand.

After seven years of declining profits,

REPORTER ASSOCIATE *Wilton Woods*

Chrysler's always shaky asset base has turned to matchsticks. Because the company stopped making cash payments to its pension fund last year in order to save money, its unfunded liability now stands at $4.4 billion. Under new accounting rules, by next year Chrysler must also set aside $5 billion to $7 billion for future retiree medical costs. Chrysler seems likely to follow the lead of other companies that have said they would take a one-time hit rather than spread the charge over many years. A one-time hit would cost Chrysler $3 billion to $4 billion after taxes and take a substantial bite out of the shareholders' equity, which stood at $6.1 billion at the end of 1991.

Longer term, other equally daunting shortcomings are apparent. Because it has the oldest work force in the business (average age: around 44), Chrysler will never be the low-cost producer. Older workers get sick more often, so Chrysler pays $600 more per worker annually in medical costs than Japanese manufacturers in the U.S. Since Chrysler thus earns less per car, it has less to invest in future new models and so risks slipping behind richer competitors.

FOR THE IMMEDIATE future, all eyes will be focused on the fifth floor of the K.T. Keller Building at Chrysler's headquarters complex in Highland Park, Michigan. The odds on Eaton's survival may be no better than Chrysler's as an independent automaker. Iacocca treats heirs apparent the way Henry VIII treated his wives. Says one well-placed former Chrysler executive: "The longer Lee lives with this guy, the longer he has to find fault with him." Since 1986 four potential successors have left Chrysler prematurely, at least in part because of Iacocca: President Harold Sperlich and three vice chairmen, Bennett E. Bidwell, Gerald Greenwald, and—just last month—Robert S. "Steve" Miller. Says a longtime industry observer: "Eaton is small fry. What's he going to do when he gets the treatment that Bidwell, Greenwald, and Miller got?"

To complicate Eaton's settling in still further, a fifth potential successor remains very much on the scene. Friends say President (and until recently COO) Robert Lutz, 60, was shocked at being passed over for Eaton, though he has made the best of it by declaring publicly that he's a team player and privately that he's "going to make this work." That doesn't mean he wouldn't leave if the right job opened up—but neither does it prevent Iacocca from using Lutz as a foil to Eaton. Says one former Chrysler executive with close ties to the board who watched the succession process carefully: "I can just see Lee around November 15 coming to the board and saying, 'You're going to have to prevail upon me to stay because these two guys [Eaton and Lutz] are at each other's throats, and you need me to save the company.' "

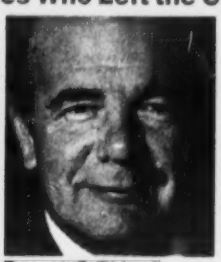
High-stakes office politics aren't what's required at Chrysler. The new troika at the top must start pulling quickly and strongly in the same direction. This year the company introduces its first all-new cars and trucks in more than a decade. Among them: the fire-breathing 400-hp Viper ($50,000), a new Grand Cherokee Jeep ($18,900 to $27,400) to counter Ford's hugely successful Explorer, and midsize sedans code-named LH (probably $15,000 to $25,000) that were the hit of the Detroit Auto Show in January. Launching a product that costs a billion dollars or so to develop is a tricky business that requires careful

PRETENDERS TO THE THRONE

Chrysler Executives Who Left the Company

LOUIS PSAHOYOS—MATRIX

Gerald Greenwald
Investment banker


LOUIS PSAHOYOS—MATRIX

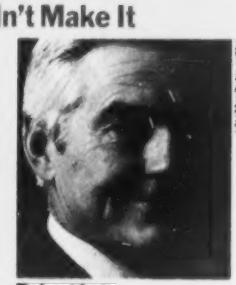
Bennett E. Bidwell
Consultant

PETER YATES—SABA

Robert S. "Steve" Miller
Investment banker

Insiders Who Didn't Make It

Jerome York
Chrysler executive VP


ALEN MACWEENEY

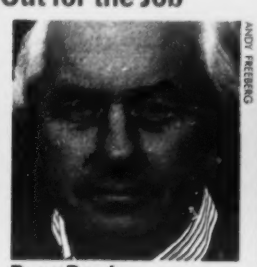
Robert Lutz
Chrysler President

Outsiders Said to Have Been Sounded Out for the Job

LOUIS PSAHOYOS—MATRIX

Ross Perot
Former GM director

Alexander J. Trotman
Ford executive VP


ANDY FREEBERG

Roger Penske
Industrialist

LOUIS PSAHOYOS—MATRIX

William Hoglund
GM executive VP

All of Iacocca's potential successors inside Chrysler eventually lost out. The board started looking at others last fall; it considered a number of high-ranking outsiders before the messy process was over.

coordination among manufacturing, pa[illegible], advertising, and distribution. Flub any part of it and millions can be wasted, dealers and customers angered, momentum lost. Just ask GM, which has seen the debut of the much admired 1992 Cadillac Seville slowed by problems in the paint shop.

If Chrysler can get past the hiccups that accompany a launch, its immediate future looks shinier than it has since the mid-1980s, when the revolutionary minivan and the original Jeep Cherokee had the market all to themselves. Over the past two years the company has completely reorganized its vehicle operations along Honda-style lines. Designers, product engineers, and manufacturing specialists have been assigned to "platform teams" for each type of vehicle. Instead of passing new car projects over the transom from design to engineering to manufacturing, Chrysler now assembles 700 to 800 engineers and others from each of those areas and tells them to work together. That gets better results faster and cheaper. Several of the teams have been installed just north of Detroit in Chrysler's new, billion-dollar Technology Center, the largest of its kind in the world, which was custom-designed for platform-team product development.

So far, so good. Chrysler developed the new Grand Cherokee *and* built a plant to assemble it for $1.1 billion—a bargain price. GM spent $1 billion on each of a series of assembly plants it erected in the early 1980s, some of which it may soon close. Production of the new Jeep started in January. Analyst John Casesa of Wertheim Schroder estimates that Chrysler will earn a healthy $5,500 per unit once the factory is running at capacity of 175,000 annually.

In June, production of the long-awaited LH cars starts at a plant in Canada. They will be marketed in different forms as Dodges, Eagles, and Chryslers. If Chrysler can avoid embarrassing miscues like those that accompanied the introduction of its flawed four-speed electronic transmission in 1990, Casesa estimates it can build up to 300,000 of the cars annually and expect a profit of $4,100 on each one.

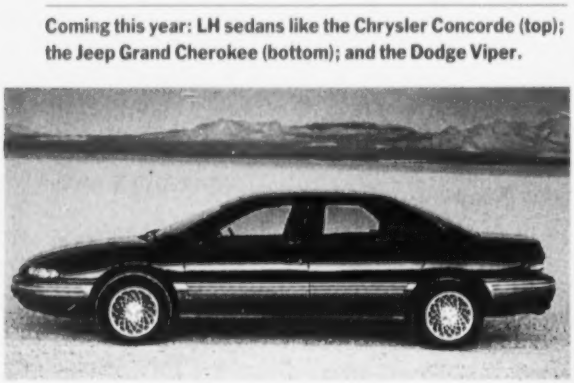
WITH MUCH of the company running so smoothly, why did Iacocca and the board bring in an outsider? From interviews with Iacocca and Eaton, other current and former Chrysler executives, and sources close to the board of directors, it seems clear that Eaton was selected because he was the only candidate acceptable to Iacocca—besides Iacocca himself. Neither Lutz nor Greenwald, the other finalists, appeared willing to give Iacocca as much rope as he wanted to stay on at Chrysler indefinitely as CEO or in a strong, decision-making board position.

Iacocca tells a different story. He contends that Eaton had an edge over Lutz in age and experience. Says he: "Bob Lutz is a great product planner, but he's not the manufacturer or engineer that Eaton is, no more than I am." As for Greenwald, he wasn't a car guy but a bean counter. Besides, Iacocca says he promised Greenwald that he could succeed him as CEO at the end of 1990—and Greenwald left anyway to lead an unsuccessful union attempt to buy out United Airlines.

Last fall, as Iacocca increasingly procrastinated about picking a successor or setting a retirement date, the board began prospecting on its own. But the directors went about it in a peculiar way. Even though a three-member board nominating committee deals with executive assignments, all ten non-Chrysler board members decided to participate in the decision process. It would give them an opportunity, they believed, to work together as a unit for the first time since Iacocca trimmed the board last year from 18 to a more wieldy 13.

The outside Chrysler board members included a core of hardheaded CEOs: Kent Kresa, head of Northrop; Joseph Antonini, chairman of Kmart; and Peter A. Magowan, who runs Safeway. But it also had the usual World War II bomber crew assortment, including Michigan ex-governor William G. Milliken, Lilyan H. Affinito, vice chairman of Maxxam Group, a forest products firm, and former Carter Administration Cabinet member Joseph A. Califano Jr. Their diverging concerns led to a series of leaks about who was being considered and, in the end, meant indecision and compromise.

One consistent theme ran through the board's deliberations. Clearly Iacocca didn't want Lutz, his logical successor once Greenwald was gone, to follow him. Both Iacocca and Lutz are strong-willed executives reluctant to share the limelight; they seemed destined to reach this final impasse. So the board began turning up candidates from outside Chrysler, though not in any systematic way. No headhunter was retained to make the process more professional—or more discreet. Among the most noteworthy candidates: Greenwald; Roger Penske, the race car driver turned industrialist; and



Coming this year: LH sedans like the Chrysler Concorde (top); the Jeep Grand Cherokee (bottom); and the Dodge Viper.

DOWN TO NO. 10

Worldwide car and truck sales in millions of units

Rank	AUTOMAKERS	1991	1986	Rank in 1986
1	**General Motors** U.S.	7.02	8.16	1
2	**Ford Motor** U.S.	5.36	5.98	2
3	**Toyota** Japan	4.75	3.69	3
4	**Volkswagen** Germany	3.13	2.76	4
5	**Nissan** Japan	3.08	2.70	5
6	**Fiat** Italy	2.19	1.81	7
7	**Peugeot** France	2.06	1.72	8
8	**Honda** Japan	1.92	1.58	9
9	**Renault** France	1.88	1.57	10
10	**CHRYSLER** U.S.	1.87	2.20	6

Since 1986 automakers in Europe and Japan have grown, while all of the U.S. Big Three have seen sales skid. Only Chrysler lost position, however, sinking from No. 6 to the bottom of the top ten.

Ross Perot, the computer company founder and gadfly former GM director.

Penske has enhanced his reputation by resuscitating engine maker Detroit Diesel. But according to one source, Iacocca wanted to sign Penske as No. 2 without a firm guarantee of when Penske would succeed him. That was unacceptable to Penske. A further obstacle: the need to unravel Penske's other considerable business interests, which include an Indianapolis 500 car racing team, Hertz Penske rental trucks, and Longo Toyota in El Monte, California, the nation's highest-volume showroom.

The board got in touch early on with Greenwald, who had worked at Chrysler since 1978 and was Iacocca's No. 2 from 1986 until he left. Though he was pursuing a second career as a New York investment banker at Dillon Read, Greenwald often said that he missed the excitement of the auto business. But departing Chrysler was one strike against him. Strike two was the board's belief that picking Greenwald meant losing Lutz. Though not exactly blood enemies, they had been natural rivals because of their proximity near the top of the Chrysler totem pole.

A showdown between Iacocca and Lutz had been inevitable since Lutz arrived in Highland Park in 1986 after leaving Ford in the wake of a management dust-up. Lutz is the only auto executive in Detroit who can outshine Iacocca. Tall, silver-haired, and photogenic, Lutz is articulate and cosmopolitan. He speaks four languages and after a stint at BMW ran Ford's big international operation in the early 1980s. When Iacocca lights one of his Havana cigars, he looks like a plutocrat; when Lutz puts a match to one, he resembles nothing so much as a dashing RAF pilot back from a risky mission. (Lutz flew jet fighters in the Marines.) "One hot dog can't like another hot dog," says a former Chrysler boss and Iacocca chum about the conflict.

Lutz's strengths were also his weaknesses. His concentrated focus on product development left him unschooled in the niceties of finance or labor relations. His single-mindedness often appeared as stubbornness. "Lee is adaptable," says one Chrysler executive. "Lutz is not." In opposition to Iacocca, Lutz wanted Chrysler to remain independent and to develop a new subcompact car on its own, without an overseas partner. Lutz won both battles but lost the war.

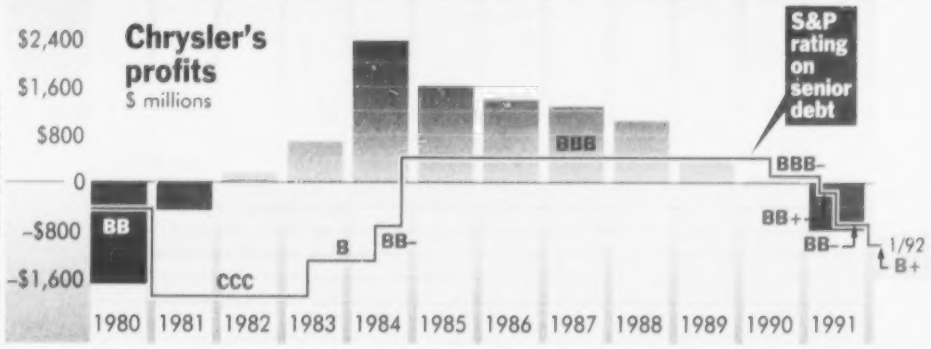
Then there were personal matters. The multilingual Lutz occasionally conversed with chief engineer François Castaing in French, a habit said to have infuriated Iacocca. Though Iacocca is no stranger to failed marriages, Lutz is in the middle of his second divorce and has complained publicly that it will cost him $20,000 a month. While Iacocca is more comfortable in the back seat of a limo, Lutz loves to drive fast—really fast—and packs a police radar detector in his briefcase. Three years ago, at 57, Lutz learned how to fly a helicopter; two years later he crashed one and has found less time to fly since then.

Eaton entered the competition late in the game, only weeks before the final selection. His 29-year career at GM was marked by swift promotions with no detours; he is a hunting companion and protégé of former CEO Roger Smith. An accomplished engineer, he developed GM's first front-wheel-drive compact cars, introduced in 1979, and ran GM's huge Technical Center before his posting to GM Europe as president in 1988. He inherited a strong product line and, with the German economy roaring, reaped record profits for several years. He has never held a day-to-day operating job. GM Europe is based in Zurich, far from any car factories, and is run like a holding company with a scant 200-person staff.

BY FEBRUARY, owing in part to public pressure from major stockholders, the board's deliberations took on greater urgency. Names of potential candidates were leaking to the press. Vice chairman Miller's abrupt departure stripped Lutz of some insurance because a number of directors had mentally paired Miller, a finance specialist, with Lutz as a team. Miller insisted that he left Chrysler to do something new—investment banking, with the James Wolfensohn firm in New York City—but associates speculated that frustration over Iacocca's intransigence helped him make up his mind to go.

When the outside directors convened for their crucial meeting at Manhattan's Waldorf-Astoria on a cold Saturday night in mid-March, their choices were limited. They had not faced the Iacocca issue squarely. They wanted a succession plan in place—all boards do—but they were unwilling to push Iacocca out despite their

A FINANCIAL RISE AND FALL



Since Chrysler's credit rating has once more slipped below BBB–, its debt is again considered "junk."

misgivings about his intentions. Their irresolution eliminated Greenwald, who made his candidacy contingent on quick installation as CEO and an exit plan for Iacocca. Lutz was less explicit about his terms but was clearly unsympathetic to having Iacocca stay on indefinitely.

Eaton could afford to be more accommodating. His chance for big future promotions at GM was almost nil, since he faced a logjam of other qualified executives and GM has a poor record for reassimilating personnel from overseas. Once subjected to the Iacocca charm, and mindful that even Chairman Lee cannot roll back the calendar, Eaton undoubtedly felt the risk was manageable. Of course Iacocca can change his mind about Eaton, as long as the board concurs, and while Iacocca has indicated that he might leave the board at the end of 1993, he now hints that it could be a year after that.

Chrysler, arguably the most improved member of the Big Three, will now be run by a former executive of GM, which lost a record $4.5 billion last year even though GM Europe made money. Some sorting out will be in order. Because Eaton and Lutz are both product specialists, they will have to find a way to divide their duties. Following the departures of Greenwald, Miller, and treasurer Fred Zuckerman in the past two years, Chrysler has a shortage of bean counters—something it may need more urgently than car guys now that it is beginning to roll out its impressive line of new models. The well-liked incumbent CFO, Jerome B. York, 53, an engineer by training, has had the job less than two years.

While it would be natural for Eaton to recruit former colleagues to come to Chrysler, he says that's not his style. Also, the boss has asked him not to.

Eaton will find that Chrysler's management style takes getting used to. GM is committee-managed, bureaucratic, staid; Chrysler is lean, fast, loose. If Eaton asks for a study group, he'll get a management trainee; if he wants a report, he'll get only a page or two. Chrysler executives, especially those on the fifth floor at Highland Park, engage in a fair amount of men's-club jostling, most of it friendly, and sometimes express their opinions loudly. Says one Chrysler manager: "We're a little different. You can't get near the fifth floor without hearing voices being raised."

Eaton's arrival has already dented the morale of other Chrysler executives who now see their way to the top blocked by a relatively young boss. While it would be only natural for Eaton to recruit former colleagues to come to Chrysler, creating a further squeeze on the supply of attractive jobs, he says that's not his style. Also, the boss has asked him not to. "When you bring six or eight guys in from outside, that's when you have trouble," says Iacocca. "We did that in 1978 and 1979, but

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Jackie Streeter, Apple worldwide product configuration manager, says: "If people have

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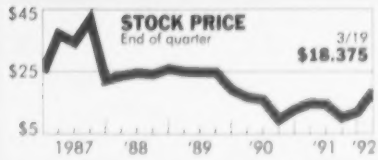

After a four-year decline, the share price has started to rebound on positive talk about the new models. With costs pared, profits could snap back smartly.

SALES (latest four quarters)	**$29.4 billion**
Change from year earlier	Down 4.9%
NET LOSS	**$795.0 million**
	N.A.
RETURN ON EQUITY	**N.A.**
TOTAL RETURN TO INVESTORS 2/27/87–2/28/92 (annual rate)	**-6.9%**
PRICE/EARNINGS MULTIPLE	**N.A.**
DIVIDEND YIELD	**3.3%**

we're not in that bad shape anymore."

One area where Eaton is bound to make an impact is in forging foreign alliances. He negotiated GM's purchase of 50% of Saab's car-making unit in 1990 and has put together several manufacturing ventures in Eastern Europe. Iacocca has talked for years about forming a "Global Motors." He has had manufacturing and distribution alliances with Renault and Mitsubishi, and has discussed mergers with Volkswagen and Fiat. Ford has studied combining with Chrysler.

Iacocca's Japan bashing has alienated Mitsubishi over the years, and Renault and Fiat are too weak to help Chrysler now. But Volkswagen and Ford remain genuine possibilities. Both companies could benefit from Chrysler's skill at product development, now the deftest in the West. Volkswagen needs Chrysler to boost its sales in the U.S., which it cannot do alone. Chrysler's minivans and Jeeps are popular in Europe, and would fill gaps in VW's product line. Ford needs Chrysler to fill gaps in *its* line, notably with minivans and the LH sedans. Once Iacocca is out of the picture, integrating the managements of the two companies would be easier.

What does Chrysler need? It is replenishing its product line with new small and compact cars, a new light truck (the first in 22 years), a new roadster, and a revamped minivan in 1995. But what happens after that? The company hocked the store to develop these new models. It needs money and resources to engineer their successors and salt some cash away for the next economic downturn. Staying competitive in engineering, marketing, and distribution gets ever more costly. Government regulations require hugely expensive investments in cleaner engines, lighter and more economical vehicles, and electric propulsion systems. Chrysler cannot spend enough to keep up with more prosperous rivals both in the U.S. and abroad.

Since Iacocca masterminded the $1.5 billion government loan guarantee that kept Chrysler afloat in the early 1980s, he has turned in a mixed performance. Between 1986 and 1991, Chrysler fell from No. 6 to No. 10 among the world's automakers (see table). If Eaton finally gets the opportunity, his job will be to arrest that slide and ensure Chrysler's survival—as a small independent automaker or as part of a new Global Motors. Either way, it won't be easy. F

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GETTING TOUGH WITH THE JAPANESE

Europe is moving to higher trade barriers and more government aid to protect jobs and markets. Trouble is, American as well as Asian exporters could be hurt. ■ *by Carla Rapoport*

AS EUROPE rolls through 1992, the long-awaited year of economic integration is beginning to look more like the year of Euro-retreat. Worried by the increasingly obvious uncompetitiveness of much of their industry, Europeans are winding up for a backlash against open markets and free trade. Expect more, not less, protection of jobs and companies. Warning: American and Japanese companies hoping to boost exports to Europe in the next few years could face new obstacles.

The cause is not hard to find. From a trade surplus in 1986, Europe ran up a record trade deficit estimated at about $110 billion last year. Japanese electronics account for more than 20% of the total. Europe's share of its own $250 billion information technology market fell from a high of 43% in 1987 to just 20% last year. Europe is all but finished in semiconductors. In cars, analysts predict its once proud manufacturers will have just 55% of their home markets among themselves by the end of the decade, down from 65% today.

SHARE OF EUROPEAN CAR MARKET

	1990	2000
JAPANESE (total)	**12.6%**	**19.5%**
Imported	12.0%	10.5%
Made in Europe	0.6%	9.0%
EUROPEAN	**64.6%**	**55.0%**
AMERICAN	**22.8%**	**25.5%**

SOURCES: EUROMOTOR REPORTS 1990; INDUSTRY ESTIMATES 2000

The march toward a single European market has not stopped. Last December members of the European Community agreed to phase in monetary union by 1999, and all but Britain approved a common social contract calling for EC-wide standards for working hours and conditions. Of 282 proposals aimed at eliminating trade barriers, more than 210 have now been passed. Customs formalities at borders will cease by the end of this year.

The problem is a sudden, nerve-rattling economic slowdown. Europe's GNP grew just 1.2% last year, and prospects for 1992 aren't much brighter. Unemployment will remain at a worrying 9.3% this year and next, predicts the Organization for Economic Cooperation and Development. Even more troubling to Western Europeans is the huge number of unemployed workers—and potential immigrants—massed just over their borders in Eastern Europe. Faced with this one-two punch, political and business leaders have become less interested in deregulation and lower prices for consumers and more worried about the jobs that might be lost as a result of further market liberalization. Warns Konrad Seitz, head of policy planning in the German foreign ministry: "If trends go on the way they are now, Europe might be without European-owned firms in the whole field of information technology. It would be a nightmare."

After long hanging back, Germans like Seitz have begun to join in the push by the French, the Italians, and even some Britons for the following: more money for ailing European industries, more industrial collaboration and joint R&D projects, fewer outsiders in pan-European projects, and possibly sanctions against the Japanese if their exports don't slow down.

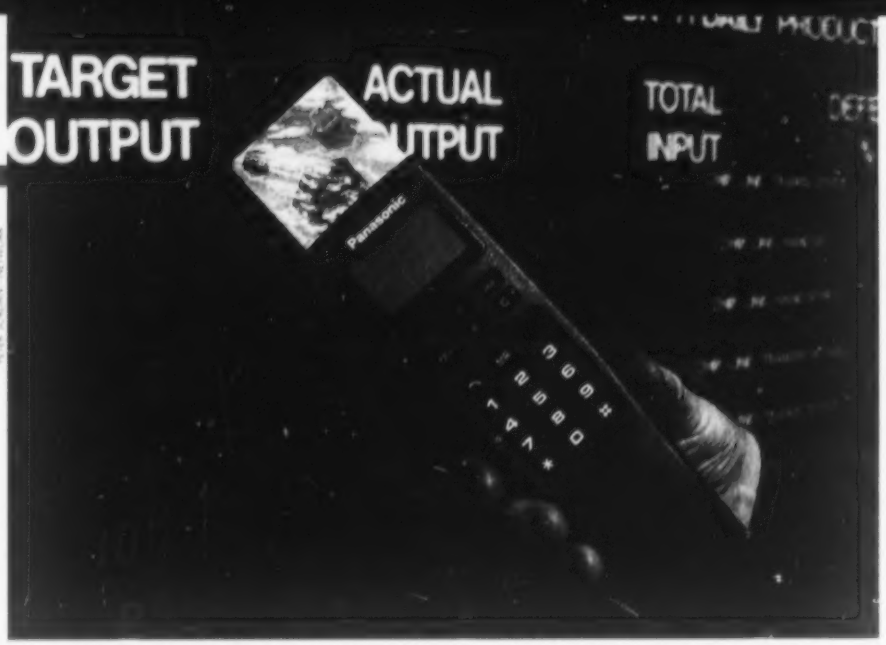
Consider recent remarks by Eberhard von Kuenheim, chairman of BMW, a company that has successfully penetrated the Japanese car market in the past five years. The principles of free trade are no longer equally observed worldwide, he says, adding, "Through their aggressive policy of conquering markets, the Japanese have created a scenario of ruinous competition everywhere. The first people to suffer from this cutthroat competition were U.S. man-

Peugeot's Calvet says Japan threatens European civilization.

REPORTER ASSOCIATE *Thomas J. Martin*

ufacturers." The next, he implies, will be the Europeans.

In electronics, the situation looks equally grim. Says Pasquale Pistorio, the Italian CEO of SGS-Thomson, Europe's last independent chipmaker: "The Japanese have a track record of dominating, not cooperating. I've nothing against their desire to conquer the world. They'll do it nicely. But I don't want to be conquered."



Japanese high-tech goods, like this digital car phone that takes credit cards, may come under fire.

DO THESE MEN want to abandon the Treaty of Rome and return to the bad old days of protectionism? Not exactly. Until recently, Europe's failure to build globally competitive industries in computers, electronics, and cars was blamed on protectionistic state subsidies, clubby cartels, and import quotas. Lift all that, went the gospel at the time, and strong competition would forge a competitor worthy of Toshiba or Toyota. It didn't happen.

Efforts to merge all or parts of computer makers Olivetti, Siemens, and Groupe Bull, for example, fell apart over nationalistic arguments about which country would manufacture the products and which would get the layoffs. Similar plans in the car industry also came to grief.

Francis Lorentz, CEO of Bull, would like the European Community to promote more research and development cooperation in the computer industry. "This is no different than what the U.S. Department of Defense did for years through its military budget," he says. "I would like to make use of technology developed by Olivetti and Siemens and then compete with them."

In other industries, the high social costs of shedding workers prevents big layoffs, while strong unions in most countries keep wages rising. The political cost of replacing high-cost factories in Europe with lower-cost units in Asia remains ruinously high.

Today, many European business leaders, von Kuenheim and Pistorio among them, believe the formula for creating strong Euro-companies includes a mixture of centralized industrial policy, improved productivity, and intensified pressure on competitors—especially the Japanese—to hold down exports and open up their own markets. The new thinking runs: Don't say Concorde (a small, troubled niche player) when you think of state-assisted industries; say Airbus or France's profitable TGV rail system, both big successes. With more state and EC encouragement, according to this argument, European companies can compete in world markets—and in their own.

These views are cropping up in unexpected places. Germany's powerful industry association, the Bundesverband der Deutschen Industrie, is already modifying its rock-solid support for free trade. The association has proposed rethinking antitrust rules to ensure they do not "impede business cooperation that goes beyond the R&D sector" and has suggested that the General Agreement on Tariffs and Trade (GATT) be amended to allow sanctions against the Japanese in retaliation for their impenetrable distribution networks and closed supplier agreements within Japan.

At the Brussels headquarters of the European Community, the forces for more government aid to industry and less free trade are advancing steadily. The EC plans to boost sharply its direct aid to industry over the next five years, to $4.3 billion annually by 1997. About 40% of the money will go into new research and development projects, 30% for retraining workers facing unemployment, and the rest for "trans-European" projects, such as EC-wide telecommunications networks. "Europe's trade imbalance is reason enough to reflect on industrial policy," says Reinhard Buescher, an EC industrial affairs official. Adds a senior Eurocrat: "Our anticompetition rules are the strongest in the world. That's madness."

Martin Bangemann, a German who is EC vice president for industry, brands bureaucrats who enforce strict antimerger rules as "competition ayatollahs." One of those, Sir Leon Brittan, the EC's vice president for competition, is even toughening up his own view. Though firmly against protectionism, Brittan now says, "I would not rule out the threat of reciprocity" in forcing Japan to open up its home market.

Sir Leon blames the Japanese for the pressure he's getting in Europe for state aid to industry. Recently he told Japanese business leaders: "Quite simply, it is the phenomenal

BMW chief von Kuenheim attacks the Japanese for "cutthroat" competition.

EC vice president Brittan is feeling pressed to increase aid to industry.

strength of the Japanese economy and the huge success of its export effort that is at the root of much of the present questioning of economic liberalism. There is a widespread perception that the Japanese economy is not so much a friendly locomotive of world trade as a hostile steamroller."

This darkening mood is not hard to miss. Shigeru Tsumori, until recently second in command at the Japanese Embassy in Bonn and now back in Tokyo, says he noticed a distinct cooling toward himself and colleagues by German industrialists during his two-year duty there. Says he: "I recently met the chairman of BMW, and he told me he was expressing his opinion [about Japan's high exports] not as a German or BMW executive, but as a European." The Japanese diplomat adds: "That means he's standing alongside auto companies in France and Italy. For us that's not positive, because we Japanese and Germans have become strong on free trade. The French and Italians are protectionist."

If protectionism is a religion, then France is the Vatican and the top cardinals are Jacques Calvet, CEO of PSA, maker of Peugeot and Citroën cars, and Alain Gomez, chief of Thomson, the state-owned French electronics giant (see following story). Operating in a protected home market that is supposed to open slowly to the Japanese over the next seven years, Calvet has built PSA into a profitable company with 1991 sales of $28 billion.

He believes that Europe must be shielded from the Japanese because Europeans won't reduce their living standards just to become competitive. Says he: "The Japanese don't resemble us. They have a feudal system, and Dr. Toyoda [CEO of Toyota] is a samurai of modern times. The Japanese can destroy a large part of our industrial fabric and destroy us socially and economically. If we truly want to compete, it's not a question of technology or technique. We're looking at a change in living standards and in our kind of civilization." Calvet argues that free trade is possible only between countries that resemble each other.

Barriers on Japanese imports, he says, should remain until Japan changes its

The Rebel.

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ways or Europe abandons its lifestyle. Says he: "Either Europeans work like the Japanese, more than 2,000 hours a year instead of 1,700, and with a two-week holiday, not five, or else the Japanese will have to change." Calvet clearly thinks the Japanese should change. "It could be said this is the shameful position of protectionism, but we are running an enormous risk of breaking up a social fabric it has taken us a long time to create. If our politicians don't realize that, then in the near future there will be violence and civil strife in Europe."

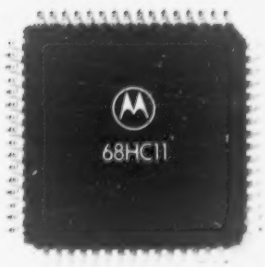
Many of Calvet's French colleagues dismiss him as an extremist, but as far as the European car industry goes, analysts tend to support his worst fears. Euromotor Reports, an automotive research group in London, states that if the EC continues with its plan to remove all restrictions on car imports by 1999, only Volkswagen among European makers is a sure bet to survive, with either Renault or Fiat likely to collapse or be bought or merged. But other analysts say even Volkswagen has not been able to get its costs low enough to avoid losses during a downturn.

To become competitive, European automakers will have to make widespread job cuts. Says Robert Eaton, who ran GM's European operations for four years and is now Chrysler's CEO-designate: "The U.S. was the automotive battleground of the 1980s. Europe will be that battleground in the 1990s." An American auto executive based in Germany, who asked not to be named, believes that Europe won't let the worst happen. "Europeans in general are far more pragmatic than Americans. They won't allow the blood bath that's happened in the U.S. to happen here. They don't believe in the free market that much."

"The U.S. was the automotive battleground of the 1980s. Europe will be that battleground in the 1990s."

Garel Rhys, auto expert and professor at the University of Wales, offers this forecast of how things will play out. "The French, Italian, and German carmakers will press so much that the EC will have to allow state aid and probably vigorous control over the number of cars brought into Europe and the number of plants built here," he says. This kind of intervention will lead to higher prices for consumers, but Rhys reckons that European buyers will swallow 10% to 15% price increases for the sake of preserving jobs and companies. Anything more, and industry risks inciting a backlash.

Most Old World industrialists believe it will take another ten years at least until they can get their businesses productive enough to take on the Japanese and the Americans in open European markets. So on January 1, 1993, you can expect celebrations for a unified Europe. But for at least a decade after that, expect more, not less, protection of European industry. F



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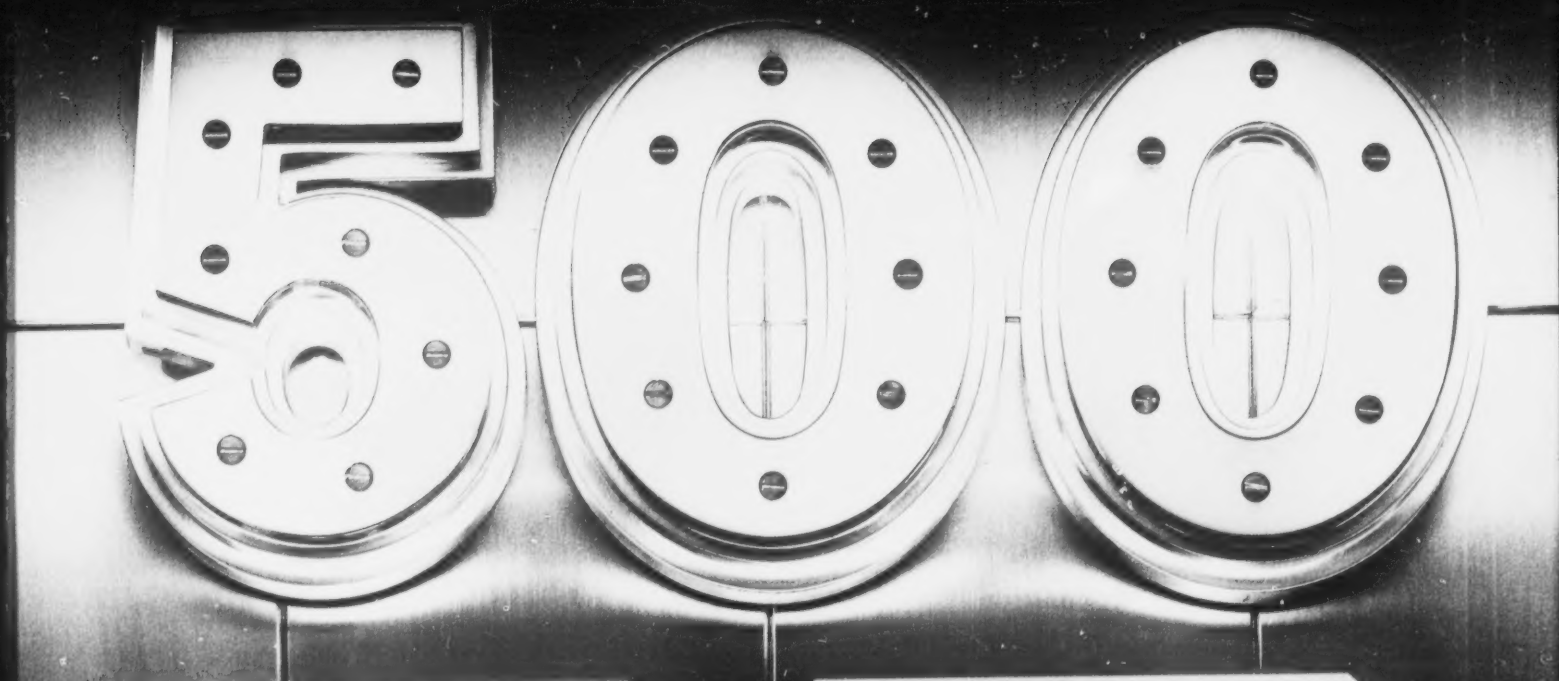


THE 500 RANKED BY SALES

Here's the classic FORTUNE 500 list of the largest U.S. industrial corporations. Turn the page for an overview; the rankings follow.
Notes, definitions, and explanations, page 242.
Arrivals, departures, and money losers, page 246.

PAGE 220

THE 500 RANKED WITHIN INDUSTRIES

We divide the FORTUNE 500 into 27 industries, from mining to aerospace. The lists show how each company stacks up against its competitors in sales, profits, and ten other categories.
Which industries did best and worst, page 287.

PAGE 259

THE 500 RANKED BY PERFORMANCE

Which companies did best? This section pinpoints the top 50 companies by each of 12 measures, including profits, market value, investment performance, earnings growth, and returns on sales, assets, and stockholders' equity.

PAGE 249

THE 500 RANKED WITHIN STATES

Where do the 500 live? New York leads with 56; Illinois has 46; Texas and California are gaining. This listing tells where each company is headquartered, how it ranks in its state, who the CEO is, and what phone number to call.

PAGE 290

INDEX TO ALL 500 COMPANIES.....315

THE FORTUNE 500 LARGEST U.S. INDUSTRIAL CORPORATIONS

IT WAS THE WORST OF YEARS

No wonder the CEOs of the 500 sneered at economists who called the recession mild: The big boys of industry were taking it on the chin. While sales edged down just 1.8%, the pain was widespread: 238 companies showed declines, including eight of the top ten. And profits were an unparalleled disaster. They fell 41%, the worst drop in the list's history.

All told, 103 companies lost money—over 20% of the 500. That's another record. For 40 of those, 1991 was the second year in a row in the red—yet another record. Just one of the top ten, Exxon, posted a profit increase. The great names of yesteryear looked especially woeful. GM lost a record $4.5 billion, more than the *sales* of most companies on the 500. GM, IBM, and Ford together accounted for nearly $10 billion of red ink.

Before you start writing the 500's obituary, be aware that the pain is paving the way for gains. The economy was not to blame for all the distress. With curious serendipity, the start of the decade coincided with a new set of imperatives for American industry—to review the mistakes and excesses of the past, to make fundamental changes, and to gird for the fiercely competitive times ahead. These efforts will pay off sooner than you might think. Last year's aborted recovery set the date back by a season, but barring an instant replay, 1992 is likely to bring a dramatic rebound in profits.

Some companies thrive even in the worst of times.

continued

LEADERS AND

SALES

	500 SALES RANK	Billions
General Motors	1	**$123.8**
Exxon	2	**$103.2**
Ford Motor	3	**$89.0**

The complete 500 list follows this introduction.

THE 500's TRACK RECORD

	1991	VS. 1990
SALES		
Billions	$2,262.7	$2,303.2
% change	(1.8%)	6.4%
PROFITS		
Billions	$55.1	$93.4
% change	(41.0%)	(11.6%)
RETURN TO INVESTORS*		
Median	29.5%	(10.2%)
EMPLOYEES		
	11,973,236	12,453,402
% change	(3.9%)	(1.2%)

*Including capital gains or losses, plus dividends.

LAGGARDS: THE 500's BIGGEST

MONEY MAKERS

	500 SALES RANK	Billions
Exxon	2	$5.6
Philip Morris	7	$3.0
General Electric	5	$2.6

PROFIT INCREASES

	500 SALES RANK	
Rohr	273	78,149%
Rhône-Poulenc Rorer	123	32,913%
Campbell Soup	82	9,025%

SALES INCREASES

	500 SALES RANK	
Amgen	427	127%
Quantum	363	97%
Maxtor	365	75%

MONEY LOSERS

General Motors	1	($4.5)
Intl. Business Machines	4	($2.8)
Ford Motor	3	($2.3)

PROFIT DECREASES

Weirton Steel	330	(23,895%)
Chrysler	11	(1,269%)
Owens-Corning	164	(1,116%)

SALES DECREASES

Henley Group	428	(62%)
Valhi	408	(58%)
Occidental Petroleum	43	(53%)

For more on the 500's performance see page 249.

THE FORTUNE

500

and you can find them easily by looking at the performance tables that begin on page 249. These lists are among several new features that make this year's expanded 500 more useful and accessible. Others include listings by state and the summary tables in this introduction that spotlight the best and worst performers by key criteria.

There's no question that the struggle to get competitive took a heavy toll. Last year was a year of accounting for severance costs, future employee retirement costs, and just plain taking-a-bath costs as companies downsized and rightsized. Employment at the 500 fell 3.9% to 12 million. The only companies to add significantly were small and fast-growing—for example, Amgen, a newcomer to the list, which expects to increase its work force 50% to 2,500 by the end of the year.

Companies searching for their cores also gave pink slips to peripheral businesses. Henley Group, No. 428, which registered the largest sales decrease for the 500, shucked its laboratory and medical products lines to focus on aerospace and industrial products. The same trend brought Del Monte back onto the 500 list after an absence of 12 years: It was freed from RJR Nabisco in an LBO.

Don't get the idea that the urge to merge is dead. Several of 1990's 500 were swept from this year's list by acquisitors, including computer maker NCR, formerly No. 79, bought by AT&T, and Harcourt Brace

THE 500's BEST PERFORMERS

HIGHEST RETURNS ON . . .

SALES

	500 SALES RANK	
Polaroid	203	33%
Union Texas Petroleum	323	31%
UST	362	30%

ASSETS

UST	362	41%
Polaroid	203	36%
American Home Products	71	23%

COMMON EQUITY

Lyondell Petrochemical	94	182%
Polaroid	203	87%
Doskocil	389	79%

THE BEST AND WORST INVESTMENTS*

LEADERS

	500 SALES RANK	1 Year	10 Year
Thorn Apple Valley	390	385%	22%
Delta Woodside Ind.	471	286%	—
Data General	295	267%	(5%)

LAGGARDS

	500 SALES RANK	1 Year	10 Year
Eagle-Picher Industries	469	(64%)	(21%)
Compaq Computer	145	(53%)	—
Weirton Steel	330	(48%)	—

*Total return to investors; includes capital gains or losses, plus dividends.

Jovanovich, formerly 274, which merged into General Cinema (on FORTUNE's Service 500 list). On the acquiring end besides AT&T was Hasbro, No. 198, which took over Tonka, formerly 398. But notice: The various weddings brought together closely related businesses. What's dead is the hubris of conglomeration.

You wouldn't have known it was a bad year from the stock market, where people were clearly looking beyond the immediate quarters. The 500's median total return to investors for the year: a satisfying 29.5%. In 1990, by contrast, an investor in a hypothetical 500 median stock would have *lost* 10.2%. Fully 16 of the industry groups gave investors returns of better than 25%, well above last year's best performer, pharmaceuticals. But investors made plenty of harsh judgments, too. GM's market value fell by over $1 billion, dropping it another notch to No. 16 by that measure. The market is one rising tide that can't lift all boats.

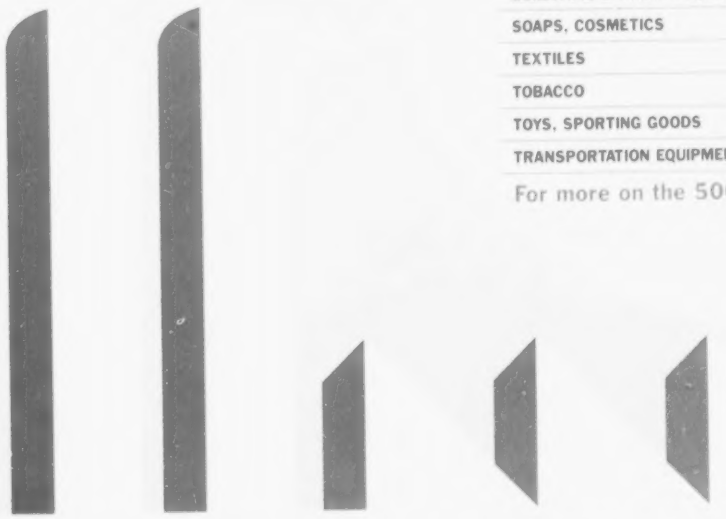
If you want something to add to your list of worries, how about growing inequality among the 500? The ten most profitable companies on last year's list earned 33% of all profits. This year the top ten lapped up 43% of the drought-stricken profit pool.

— **Alison Rogers and Ricardo Sookdeo**

LEADERS IN THEIR INDUSTRIES

INDUSTRY	COMPANY	500 SALES RANK	SALES $ millions
AEROSPACE	BOEING	12	$29,314
APPAREL	LEVI STRAUSS ASSOC.	104	$4,903
BEVERAGES	PEPSICO	17	$19,771
BUILDING MATERIALS	PPG INDUSTRIES	96	$5,725
CHEMICALS	E.I. DU PONT DE NEMOURS	8	$38,031
COMPUTERS, OFFICE EQUIP.	IBM	4	$64,792
ELECTRONICS, ELEC. EQUIP.	GENERAL ELECTRIC	5	$60,236
FOOD	PHILIP MORRIS	7	$48,109
FOREST PRODUCTS	INTERNATIONAL PAPER	31	$12,703
FURNITURE	JOHNSON CONTROLS	113	$4,566
INDUSTRIAL & FARM EQUIP.	TENNECO	27	$14,035
JEWELRY, SILVERWARE	JOSTENS	372	$860
METAL PRODUCTS	GILLETTE	107	$4,706
METALS	ALUMINUM CO. OF AMERICA	46	$9,981
MINING, CRUDE-OIL PRODUCTION	OCCIDENTAL PETROLEUM	43	$10,305
MOTOR VEHICLES & PARTS	GENERAL MOTORS	3	$123,780
PETROLEUM REFINING	EXXON	2	$103,242
PHARMACEUTICALS	JOHNSON & JOHNSON	34	$12,447
PUBLISHING, PRINTING	R.R. DONNELLY & SONS	121	$3,915
RUBBER & PLASTIC PRODUCTS	GOODYEAR TIRE	41	$11,046
SCIENTIFIC & PHOTO. EQUIP.	EASTMAN KODAK	18	$19,649
SOAPS, COSMETICS	PROCTER & GAMBLE	13	$27,406
TEXTILES	WICKES	171	$2,622
TOBACCO	RJR NABISCO HOLDINGS	25	$14,989
TOYS, SPORTING GOODS	HASBRO	198	$2,141
TRANSPORTATION EQUIPMENT	BRUNSWICK	204	$2,088

For more on the 500's industries see page 259.



This is the first of FORTUNE's four 500 listings. Updated reprints of the U.S. Industrial and Service directories will be available in a single booklet at the end of August. Price: $25. Address: The 1992 FORTUNE Directory, 229 West 28th Street, New York, N.Y. 10001.

- SERVICE 500: June 1 Issue
- GLOBAL INDUSTRIAL 500: July 27
- GLOBAL SERVICE 500: August 24

THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK 1991	1990		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	1	**GENERAL MOTORS** Detroit	123,780.1	(1.1)	(4,452.8)	478	—	184,325.5	1	27,327.6	1
2	2	**EXXON** Irving, Texas	103,242.0	(2.5)	5,600.0	5	11.8	87,560.0	5	34,927.0	2
3	3	**FORD MOTOR** Dearborn, Mich.	88,962.8	(9.5)	(2,258.0)	472	(362.5)	174,429.4	2	22,690.3	4
4	4	**INTL. BUSINESS MACHINES** Armonk, N.Y.	64,792.0	(6.1)	(2,827.0)	473	(147.0)	92,473.0	3	37,006.0	1
5	6	**GENERAL ELECTRIC** Fairfield, Conn.	60,236.0	3.1	2,636.0	3	(38.7)	168,259.0	3	21,683.0	5
6	5	**MOBIL** Fairfax, Va.	56,910.0	(3.2)	1,920.0	8	(0.5)	42,187.0	8	17,534.0	8
7	7	**PHILIP MORRIS** New York	48,109.0	8.5	3,006.0	2	(15.1)	47,384.0	7	12,512.0	11
8	9	**E.I. DU PONT DE NEMOURS** Wilmington, Del.	38,031.0	(4.5)	1,403.0	9	(39.3)	36,117.0	9	16,739.0	7
9	8	**TEXACO** White Plains, N.Y.	37,551.0	(8.9)	1,294.0	10	(10.8)	26,182.0	13	9,828.0	12
10	10	**CHEVRON** San Francisco	36,795.0	(6.3)	1,293.0	11	(40.1)	34,636.0	10	14,739.0	9
11	11	**CHRYSLER** Highland Park, Mich.	29,370.0	(4.9)	(795.0)	469	(1,269.1)	43,076.0	6	6,184.0	22
12	13	**BOEING** Seattle	29,314.0	6.2	1,567.0	7	13.1	15,784.0	23	8,093.0	18
13	15	**PROCTER & GAMBLE** Cincinnati	27,406.0	12.4	1,773.0	7	10.7	20,468.0	15	7,736.0	16
14	12	**AMOCO** Chicago	25,604.0	(9.5)	1,484.0	8	(22.4)	30,510.0	11	14,156.0	10
15	14	**SHELL OIL** Houston	22,201.0	(9.1)	20.0	322	(98.1)	27,998.0	14	15,605.0	8
16	17	**UNITED TECHNOLOGIES** Hartford	21,262.0	(2.4)	(1,021.0)	469	(236.0)	15,985.0	26	3,961.0	45
17	23	**PEPSICO** Purchase, N.Y.	19,771.2	11.1	1,080.2	9	0.3	18,775.1	21	5,545.4	30
18	20	**EASTMAN KODAK** Rochester, N.Y.	19,649.0	3.0	17.0	329	(97.6)	24,170.0	18	6,104.0	23
19	25	**CONAGRA** Omaha	19,504.7	25.7	311.2	61	34.3	9,420.3	52	1,817.4	99
20	18	**DOW CHEMICAL** Midland, Mich.	19,305.0	(3.5)	942.0	20	(31.9)	24,727.0	16	9,441.0	13
21	24	**MCDONNELL DOUGLAS** St. Louis	18,718.0	14.5	423.0	48	38.2	14,841.0	31	3,877.0	47
22	22	**XEROX** Stamford, Conn.	17,830.0	(3.0)	454.0	44	86.8	31,658.0	7	5,203.0	29
23	21	**ATLANTIC RICHFIELD** Los Angeles	17,683.0	(6.0)	709.0	26	(64.7)	24,492.0	17	6,832.0	20
24	19	**USX** Pittsburgh	17,163.0	(11.8)	(578.0)	462	(170.7)	17,039.0	23	4,987.0	37
25	28	**RJR NABISCO HOLDINGS** New York	14,989.0	8.0	368.0	53	—	32,131.0	11	8,419.0	14
26	29	**HEWLETT-PACKARD** Palo Alto, Calif.	14,541.0	9.9	755.0	24	2.2	11,973.0	45	7,269.0	17
27	26	**TENNECO** Houston	14,035.0	(5.8)	(732.0)	466	(230.5)	18,696.0	22	2,774.0	65
28	30	**DIGITAL EQUIPMENT** Maynard, Mass.	14,024.2	7.2	(617.4)	463	(930.0)	11,874.7	36	7,623.8	15
29	31	**MINNESOTA MINING & MFG.** St. Paul	13,340.0	2.4	1,154.0	7	(11.8)	11,083.0	40	6,293.0	21
30	33	**WESTINGHOUSE ELECTRIC** Pittsburgh	12,794.0	(0.9)	(1,086.0)	470	(505.2)	20,159.0	20	3,746.0	48
31	32	**INTERNATIONAL PAPER** Purchase, N.Y.	12,703.0	(2.0)	184.0	88	(67.7)	14,941.0	30	5,739.0	26
32	27	**PHILLIPS PETROLEUM** Bartlesville, Okla.	12,604.0	(9.6)	258.0	73	(66.9)	11,473.0	38	2,757.0	66
33	38	**SARA LEE** Chicago	12,456.3	6.9	535.0	38	13.8	8,122.0	63	2,894.7	63
34	41	**JOHNSON & JOHNSON** New Brunswick, N.J.	12,447.0	10.8	1,461.0	6	27.8	10,513.0	42	5,626.0	28
35	35	**ROCKWELL INTERNATIONAL** Seal Beach, Calif.	12,027.9	(3.3)	600.5	32	(3.8)	9,478.9	51	4,223.7	40
36	36	**ALLIED-SIGNAL** Morristown, N.J.	11,882.0	(4.1)	(273.0)	453	(159.1)	10,382.0	43	2,983.0	59
37	47	**COCA-COLA** Atlanta	11,571.6	11.2	1,618.0	4	17.1	10,222.4	44	4,425.8	32
38	34	**GEORGIA-PACIFIC** Atlanta	11,524.0	(9.0)	(142.0)	442	(138.9)	10,622.0	41	2,736.0	67
39	42	**MOTOROLA** Schaumburg, Ill.	11,341.0	4.2	454.0	44	(9.0)	9,375.0	53	4,630.0	35
40	46	**BRISTOL-MYERS SQUIBB** New York	11,298.0	7.5	2,056.0	5	17.6	9,416.0	52	5,795.0	24
41	40	**GOODYEAR TIRE & RUBBER** Akron	11,046.1	(3.6)	96.6	144	—	8,510.5	60	2,731.1	68
42	44	**ANHEUSER-BUSCH** St. Louis	10,996.3	2.3	939.8	21	11.6	9,986.5	46	4,438.1	31
43	16	**OCCIDENTAL PETROLEUM** Los Angeles	10,304.8	(53.0)	459.9	43	—	16,114.6	25	4,339.4	33
44	37	**SUN** Philadelphia	10,246.0	(14.0)	(387.0)	454	(269.0)	7,143.0	68	2,696.0	69
45	39	**CATERPILLAR** Peoria, Ill.	10,182.0	(11.8)	(404.0)	460	(292.4)	12,042.0	34	4,044.0	44
46	43	**ALUMINUM CO. OF AMERICA** Pittsburgh	9,981.2	(8.1)	62.7	204	(78.8)	11,178.4	39	4,937.4	39
47	50	**LOCKHEED** Calabasas, Calif.	9,809.0	(1.7)	308.0	63	(8.1)	6,617.0	71	2,503.0	74
48	45	**UNOCAL** Los Angeles	9,780.0	(8.9)	73.0	187	(81.8)	9,836.0	47	2,464.0	75
49	51	**COASTAL** Houston	9,602.8	0.1	96.3	145	(57.3)	9,487.3	50	2,041.3	81
50	48	**GENERAL DYNAMICS** Falls Church, Va.	9,548.0	(6.2)	505.0	40	—	6,207.0	82	1,980.0	87

The definitions, explanations, and footnotes underlying the figures in this directory are on page 242.

MARKET VALUE 3/6/92		PROFITS AS % OF ...						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				Industry table number	RANK 1991
		SALES		ASSETS		COMMON STOCK-HOLDERS' EQUITY			% change from 1990	1981-91 annual growth rate		1991		1981-91 annual rate			
$ millions	Rank	%	Rank	%	Rank	%	Rank	$ 1991		%	Rank	%	Rank	%	Rank		
22,855.1	6	(3.6)	426	(2.4)	409	(17.9)	389	(7.97)	—	—		(12.2)	397	10.9	246	17	1
69,086.3	1	5.4	131	6.4	48	15.8	115	4.45	12.4	3.3	182	23.3	243	22.1	102	18	2
17,333.9	22	(2.5)	412	(1.3)	395	(11.2)	383	(4.79)	(357.5)	—		12.4	269	27.9	51	17	3
49,321.7	4	(4.4)	438	(3.1)	414	(7.6)	373	(4.95)	(147.1)	—		(17.5)	401	8.7	267	6	4
66,969.5	3	4.4	122	1.6	321	12.2	171	3.03	(37.5)	5.3	167	37.4	185	22.3	97	7	5
23,698.9	15	3.4	224	4.6	205	10.7	199	4.58	(0.4)	(2.2)	317	22.7	246	17.8	149	18	6
68,770.0	2	6.2	105	6.3	143	24.0	43	3.25	(15.1)	17.0	38	59.6	91	34.5	19	8	7
29,569.2	12	3.7	206	3.9	232	8.4	239	2.08	(38.8)	0.7	93	31.9	130	19.6	128	5	8
14,735.7	27	3.4	220	4.9	92	13.1	155	4.61	(11.0)	(6.2)	246	6.6	310	15.5	182	18	9
21,366.8	18	3.5	216	3.7	236	8.8	234	3.69	(39.5)	(6.1)	247	(0.5)	356	11.0	244	18	10
4,707.8	87	(2.7)	415	(1.8)	402	(13.0)	384	(3.28)	(1,193.3)	—		(1.4)	334	27.0	61	17	11
15,749.3	24	5.3	139	9.9	58	19.4	81	4.56	13.7	12.1	80	7.4	305	25.4	74		12
33,513.1	9	6.5	98	8.7	86	22.1	53	4.92	9.6	10.6	164	11.0	238	20.9	115	23	13
21,775.3	17	5.8	118	4.9	95	10.5	208	2.98**	(21.0)	(1.0)	286	(2.1)	343	12.2	229	18	14
N.A.		0.1	370	0.1	370	—		N.A.	—	—		—		—		18	15
6,213.6	65	(4.8)	439	(6.4)	441	(27.3)	396	(8.91)	(250.8)	—		17.7	268	14.3	94	1	16
25,077.6	7	5.5	128	5.8	165	19.5	79	1.35	0.0	12.9	91	32.3	203	27.0	62	3	17
14,092.5	28	0.1	369	0.1	371	0.3	346	0.05	(97.7)	(34.4)	269	21.6	256	9.2	264	22	18
6,551.6	59	1.6	311	3.3	287	20.0	62	2.13	13.9	15.8	4	46.2	143	33.4	23	8	19
15,295.0	26	4.9	156	3.8	233	9.9	218	3.46	(32.2)	5.6	158	18.8	266	17.2	159	5	20
2,505.0	44	2.3	284	2.9	270	10.9	196	11.03	38.0	9.5	118	96.0	39	13.2	235		21
7,091.1	52	2.5	266	1.4	329	7.2	258	3.91	135.5	(5.8)	244	104.9	33	12.0	224	22	22
16,156.8	21	4.0	189	2.9	265	10.4	209	4.39	(63.9)	(4.1)	236	(9.5)	281	14.7	90	8	23
N.A.		(3.4)	424	(3.4)	420	—		N.A.	—	—		—		—		18	24
11,216.6	34	2.5	271	1.1	338	2.3	327	0.22	—	—		N.A.		—		25	25
18,690.4	20	5.2	147	6.3	46	10.4	206	3.02	(1.3)	9.0	215	80.7	53	11.9	229	6	26
4,846.2	82	(5.2)	448	(3.9)	424	(27.1)	395	(6.09)	(239.4)	—		(29.4)	416	6.5	277	11	27
7,238.0	50	(4.4)	436	(5.2)	435	(8.1)	374	(5.08)	(961.0)	—		0.7	346	2.5	328	6	28
19,804.8	25	8.7	58	10.4	58	18.3	83	5.26	(11.0)	6.2	202	15.0	293	17.8	153	22	29
6,742.3	56	(8.5)	451	(5.4)	439	(29.0)	398	(3.46)	(480.2)	—		(32.9)	420	15.6	181	7	30
9,023.5	42	1.4	322	1.2	330	3.2	319	1.66‡	(68.1)	(10.5)	284	35.6	89	18.1	136	9	31
5,877.5	69	2.0	297	2.2	294	9.4	225	0.99**	(54.6)	(6.4)	253	(4.1)	369	12.8	214	8	32
12,254.6	33	4.3	176	6.6	37	19.6	80	2.15	12.6	13.9	64	86.8	46	35.6	16	8	33
32,028.8	8	11.7	30	13.9	25	26.0	38	4.39	28.0	13.3	74	62.3	96	22.8	92	19	34
5,894.3	68	5.0	152	6.3	142	14.2	137	2.57	0.4	10.3	109	1.9	343	16.6	167	7	35
6,769.3	55	(2.3)	410	(2.6)	412	(9.2)	379	(2.00)	(159.7)	—		70.6	73	10.5	255	1	36
52,410.9	5	14.0	16	15.8	17	36.5	19	2.43	19.1	14.1	59	75.3	64	35.0	17	3	37
5,660.5	74	(1.2)	392	(1.3)	394	(5.2)	366	(1.65)‡	(138.6)	—		48.6	132	14.0	96	9	38
9,948.0	38	4.0	192	4.8	196	9.8	219	3.44	(9.5)	6.4	81	26.2	232	14.8	137	7	39
41,431.5	7	18.2	8	21.8	4	35.5	20	3.95	18.6	13.2	75	35.8	188	24.9	75	19	40
4,248.6	90	0.9	347	1.1	339	3.5	313	1.61**	—	(7.7)	282	186.8	12	15.9	177	21	41
15,644.9	25	8.5	60	9.4	71	21.2	58	3.26	10.1	15.1	43	46.0	48	27.3	58	3	42
5,701.2	73	4.5	169	2.9	266	10.5	207	1.52**	—	(15.1)	313	4.2	339	6.4	293	16	43
2,957.5	118	(3.8)	427	(5.4)	436	(14.4)	387	(3.65)	(270.6)	—		15.9	280	7.8	279	18	44
4,995.2	81	(4.0)	431	(3.4)	419	(10.0)	381	(4.00)	(293.2)	—		(4.2)	370	0.1	335	11	45
5,906.4	67	0.6	355	0.6	354	1.2	335	0.71	(79.1)	(15.8)	276	14.8	284	13.7	206	15	46
2,820.1	128	3.1	240	4.7	199	12.3	169	4.86	(8.3)	—		40.1	172	14.0	197	1	47
5,073.3	80	0.7	351	0.7	351	3.0	318	0.31	(81.9)	(18.1)	279	(8.6)	385	5.5	302	18	48
2,350.0	155	1.0	344	1.0	345	4.7	294	0.92	(57.2)	—		(22.7)	409	10.5	251	18	49
2,520.1	142	5.3	144	8.1	94	25.5	40	12.06	—	18.3	32	118.6	26	10.4	253	1	50

CONTINUED

THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

51-100

RANK 1991	1990		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
51	52	RAYTHEON Lexington, Mass.	9,355.5	0.9	591.8	33	6.2	6,087.1	83	3,323.4	54
52	56	ASHLAND OIL Russell, Ky.*	9,322.4	9.0	145.0	108	(20.4)	5,449.1	93	1,443.5	120
53	53	MONSANTO St. Louis	8,929.0	(1.3)	296.0	66	(45.8)	9,227.0	56	3,654.0	50
54	•	CITGO PETROLEUM Tulsa	8,921.9	16.7	135.7	114	37.4	3,261.7	135	1,234.3	130
55	59	BAXTER INTERNATIONAL Deerfield, Ill.	8,921.0	9.5	591.0	34	1,377.5	9,340.0	55	4,373.0	29
56	55	UNILEVER U.S. New York*	8,855.1	2.0	N.A.		—	N.A.		N.A.	
57	54	WEYERHAEUSER Tacoma	8,701.6	(3.6)	(161.9)	337	(141.1)	16,927.5	24	3,489.4	52
58	49	UNISYS Blue Bell, Pa.	8,696.1	(14.0)	(1,393.3)	371	—	8,432.0	61	2,014.4	84
59	63	MERCK Rahway, N.J.	8,602.7	10.0	2,121.7	4	19.1	9,498.5	49	4,916.2	18
60	61	ARCHER-DANIELS-MIDLAND Decatur, Ill.	8,567.7	8.5	466.7	42	(3.5)	6,260.6	80	3,922.3	46
61	57	AMERICAN BRANDS Old Greenwich, Conn.	8,379.0*	1.3	806.1	20	35.3	15,115.5	29	4,185.9	37
62	58	TRW Cleveland	7,913.0	(3.1)	(140.0)	331	(167.3)	5,635.0	88	1,685.0	98
63	60	TEXTRON Providence	7,840.1	(1.0)	299.5	65	5.8	15,737.3	28	2,927.7	61
64	66	EMERSON ELECTRIC St. Louis*	7,427.0	(1.9)	631.9	30	3.0	6,364.4	77	3,256.9	57
65	67	RALSTON PURINA St. Louis*	7,394.2	3.7	391.9	51	(1.1)	4,632.1	103	783.8	196
66	65	UNION CARBIDE Danbury, Conn.	7,346.0*	(3.6)	(28.0)	308	(109.1)	6,826.0	68	2,239.0	77
67	64	BORDEN New York	7,235.1	(5.2)	294.9	68	(18.9)	5,481.3	92	1,974.5	86
68	77	GENERAL MILLS Minneapolis	7,153.2	10.3	472.7	41	23.9	3,901.8	118	1,113.5	141
69	74	PFIZER New York	7,143.8	8.2	722.1	25	(9.9)	9,634.6	48	5,026.3	16
70	75	HANSON INDUSTRIES NA New York*	7,103.7	8.3	660.2	28	44.7	13,222.5	33	4,179.6	38
71	70	AMERICAN HOME PRODUCTS New York	7,102.8	2.7	1,375.3	13	11.8	5,938.8	86	3,300.5	56
72	62	DEERE Moline, Ill.	7,055.2	(10.5)	(20.2)	305	(104.9)	11,649.4	37	2,835.8	63
73	71	W.R. GRACE Boca Raton, Fla.	6,949.1	2.6	218.6	75	7.8	6,007.1	86	2,025.2	82
74	83	ABBOTT LABORATORIES Abbott Park, Ill.	6,921.7	11.5	1,088.7	15	12.7	6,255.3	81	3,203.0	58
75	90	HOECHST CELANESE Bridgewater, N.J.	6,856.0	16.6	172.0	92	(14.4)	6,630.0	72	3,503.0	53
76	78	KIMBERLY-CLARK Dallas	6,830.0	5.9	508.3	39	17.6	5,650.4	87	2,519.7	67
77	73	TEXAS INSTRUMENTS Dallas	6,812.0	3.1	(409.0)	353	—	5,009.0	97	1,955.0	89
78	72	WHIRLPOOL Benton Harbor, Mich.	6,770.0	1.9	170.0	93	136.1	6,445.0	75	1,515.0	124
79	87	H.J. HEINZ Pittsburgh	6,682.1	9.3	568.0	35	12.6	4,935.4	99	2,274.9	73
80	68	AMERADA HESS New York	6,416.3	(9.4)	84.3	162	(82.5)	8,841.4	58	3,132.0	60
81	95	APPLE COMPUTER Cupertino, Calif.	6,308.8	13.5	309.8	63	(34.8)	3,493.6	127	1,766.7	104
82	81	CAMPBELL SOUP Camden, N.J.	6,230.1	0.1	401.5	49	9,025.0	4,149.0	110	1,793.4	101
83	69	HONEYWELL Minneapolis	6,220.9	(10.9)	331.1	57	(13.3)	4,806.7	100	1,850.8	93
84	91	CPC INTERNATIONAL Englewood Cliffs, N.J.	6,200.0	6.9	372.7	52	(0.3)	4,510.0	105	1,630.0	109
85	89	MILES Pittsburgh*	6,197.4	5.0	101.0	139	(32.3)	5,110.5	95	2,167.1	79
86	82	COOPER INDUSTRIES Houston	6,162.6	(1.0)	393.2	50	8.8	7,148.6	65	3,394.9	55
87	80	LTV Dallas	6,117.3	(1.8)	74.1	183	4.5	6,685.2	70	(4,731.6)	400
88	84	MARTIN MARIETTA Bethesda, Md.	6,106.5	(0.6)	313.1	60	(4.4)	3,896.9	119	1,803.9	100
89	93	QUAKER OATS Chicago	6,101.2*	6.2	205.8	82	21.8	3,016.1	144	905.8	178
90	94	COLGATE-PALMOLIVE New York	6,093.7	6.2	124.9	126	(61.1)	4,510.7	104	1,866.3	91
91	85	NORTH AMERICAN PHILIPS New York*	6,064.6	(0.9)	8.1	357	—	3,043.7	143	1,116.3	143
92	102	KELLOGG Battle Creek, Mich.	5,786.6	11.3	606.0	31	20.5	3,925.8	117	2,159.8	80
93	88	REYNOLDS METALS Richmond	5,784.5	(4.8)	154.1	100	(48.0)	6,685.3	69	2,960.1	64
94	76	LYONDELL PETROCHEMICAL Houston	5,757.0	(11.5)	222.0	76	(37.6)	1,479.0	242	122.0	330
95	103	ELI LILLY Indianapolis	5,725.7	10.3	1,314.7	14	16.6	8,298.6	62	4,966.1	17
96	86	PPG INDUSTRIES Pittsburgh	5,725.2	(6.4)	276.2	69	(41.8)	6,056.2	84	2,654.5	69
97	96	NORTHROP Los Angeles	5,706.0	3.9	200.8	85	(4.6)	3,127.8	140	1,182.4	134
98	92	STONE CONTAINER Chicago	5,398.6	(6.4)	(49.1)	317	(151.5)	6,902.9	67	1,537.5	113
99	100	LITTON INDUSTRIES Beverly Hills*	5,313.3	0.9	63.5	202	(64.5)	4,998.1	98	1,157.1	141
100	110	WARNER-LAMBERT Morris Plains, N.J.	5,166.6	8.3	34.8	262	(92.8)	3,602.0	125	1,170.7	140

The definitions, explanations, and footnotes underlying the figures in this directory are on page 242.

MARKET VALUE 3/6/92		PROFITS AS % OF . . .						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				Industry table number	RANK 1991
		SALES		ASSETS		COMMON STOCKHOLDERS' EQUITY			% change from 1990	1981-91 annual growth rate		1991		1981-91 annual rate			
$ millions	Rank	%	Rank	%	Rank	%	Rank	$ 1991		%	Rank	%	Rank	%	Rank		
6,046.5	66	6.3	104	9.7	68	17.8	89	8.95	4.9	8.8	127	22.2	247	11.7	231	7	51
1,849.0	178	1.6	316	2.7	277	10.0	216	2.56	(21.7)	8.7	128	13.3	291	11.5	237	18	52
8,439.1	46	3.3	230	3.2	252	8.1	244	2.33	(44.9)	(2.1)	210	45.2	151	19.3	132	5	53
N.A.		1.5	319	4.2	220	—		N.A.	—	—		—		—		18	54
9,876.7	39	6.6	95	6.3	143	14.1	139	2.03	—	6.6	148	46.8	141	11.3	239	22	55
N.A.		—		—		—		N.A.	—	—		—		—		23	56
6,662.2	63	(1.9)	400	(1.0)	387	(4.6)	364	(0.80)	(142.8)	—		31.6	206	8.1	277	9	57
1,515.9	204	(16.0)	465	(16.5)	460	(347.0)	423	(9.37)	—	—		65.0	96	(5.8)	347	6	58
57,976.5	3	24.7	4	22.3	4	43.2	14	5.49	20.4	19.9	22	89.2	42	31.4	35	19	59
8,818.5	44	5.4	137	7.5	112	11.9	172	1.49	(8.6)	7.4	139	53.5	118	21.0	109	8	60
8,870.4	43	9.6	48	5.3	174	19.0	75	3.91	30.8	8.9	126	12.5	298	23.6	83	25	61
2,710.4	131	(1.8)	399	(2.5)	418	(8.4)	378	(2.30)	(167.8)	—		15.9	279	8.5	271	17	62
3,196.0	109	3.8	199	1.9	304	10.3	208	3.42	7.5	5.4	154	49.5	130	16.8	164	1	63
11,907.7	32	8.5	63	9.9	63	19.4	72	2.83	2.9	7.1	144	50.0	128	17.8	152	7	64
5,864.3	70	5.3	143	8.5	88	47.4	8	3.34	3.4	15.2	42	12.3	301	28.4	48	8	65
3,147.7	92	(0.4)	373	(0.4)	375	(1.3)	332	(0.22)	(110.5)	—		30.1	209	11.4	238	5	66
4,743.5	84	4.1	184	5.4	174	14.9	124	2.00	(18.7)	8.2	131	12.8	294	25.9	90	8	67
10,976.8	35	6.6	94	12.1	45	42.5	13	2.87	23.7	11.4	94	54.0	98	29.3	40	8	68
23,940.6	15	10.1	42	7.5	102	14.4	134	2.13	(10.7)	11.2	96	112.6	82	24.0	80	19	69
N.A.		9.3	52	5.0	190	—		N.A.	—	—		—		—		16	70
23,827.8	14	19.4	7	23.2	3	41.7	15	4.36	11.2	10.6	108	66.9	81	21.9	104	19	71
3,916.5	98	(0.3)	371	(0.2)	372	(0.7)	328	(0.27)	(105.0)	—		6.4	333	6.3	294	11	72
3,836.5	99	3.1	234	3.6	237	10.8	198	2.50	5.9	(4.1)	233	72.4	69	11.6	233	5	73
25,401.6	13	15.7	9	17.4	11	34.0	23	2.55	14.9	17.6	33	55.9	113	29.0	42	19	74
N.A.		2.5	269	2.6	283	—		N.A.	—	—		—		—		5	75
8,244.0	47	7.4	80	9.0	74	20.2	67	3.18	17.8	10.8	107	24.7	237	24.8	76	9	76
2,833.6	124	(6.0)	442	(8.2)	446	(27.9)	397	(5.40)	—	—		(17.4)	400	3.2	320	7	77
2,968.4	119	2.5	268	2.6	284	11.2	168	2.45	135.6	3.5	179	71.0	72	16.3	170	7	78
9,391.6	42	8.5	62	11.5	47	25.0	41	2.13	12.1	13.4	71	14.5	287	27.6	54	8	79
3,253.3	107	1.3	330	1.0	348	2.7	322	1.04	(82.6)	(8.5)	259	3.3	341	9.9	258	18	80
7,658.9	50	4.9	158	8.9	81	17.5	92	2.58	(31.6)	22.1	9	32.4	262	18.2	143	6	81
9,331.4	41	6.4	99	9.7	69	22.4	55	3.16	10,433.3	12.2	85	47.6	137	32.1	28	8	82
5,086.4	78	5.3	141	6.9	127	17.9	88	4.70	(6.6)	5.1	165	50.2	125	18.1	145	22	83
6,302.5	61	6.0	108	8.3	97	22.5	54	4.80	(0.6)	7.7	137	11.6	304	22.4	96	8	84
N.A.		1.6	308	2.0	328	—		N.A.	—	—		—		—		5	85
6,381.5	62	6.4	100	5.5	168	10.2	212	3.04	8.2	0.7	198	42.5	162	12.4	218	7	86
89.5	424	1.2	335	1.1	342	—		0.43	13.2	(25.3)	287	62.6	94	(25.4)	364	15	87
2,627.3	136	5.1	146	8.0	96	17.4	93	6.30	(3.4)	10.2	110	38.9	177	17.7	154	1	88
4,790.1	83	3.4	224	6.8	129	22.4	56	2.65	23.3	7.8	130	56.2	112	28.2	49	8	89
6,888.3	54	2.0	296	2.8	273	7.2	259	0.77	(66.2)	(4.9)	239	36.0	187	24.3	79	23	90
N.A.		0.1	368	0.3	363	—		N.A.	—	—		—		—		7	91
13,708.5	27	10.5	39	15.4	16	28.1	31	2.51	20.7	14.1	60	76.1	60	32.3	27	8	92
3,352.9	103	2.7	260	2.3	292	5.2	289	2.60	(48.1)	1.7	183	(0.4)	354	20.2	119	15	93
1,830.0	173	3.9	194	15.0	20	182.0		2.78	(37.5)	—		67.0	89	—		5	94
21,105.4	19	23.0	5	15.8	14	26.5	35	4.50	15.4	13.8	86	16.9	271	23.5	84	19	95
6,292.3	64	4.8	157	4.6	208	10.4	204	2.60	(41.3)	5.2	163	11.1	308	22.8	91	4	96
1,203.4	286	3.5	218	6.4	139	17.0	100	4.26	(4.9)	14.5	52	58.8	104	8.1	275	1	97
1,963.4	168	(0.9)	387	(0.7)	382	(3.2)	356	(0.79)	(149.7)	—		133.3	16	22.2	100	9	98
1,911.7	172	1.2	336	1.3	338	5.4	283	2.89	(60.2)	(9.0)	261	13.4	290	6.1	297	7	99
8,702.4	49	0.7	353	1.0	346	3.0	317	0.26	(92.8)	15.8	41	17.8	267	25.7	72	19	100

CONTINUED

THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK 1991	1990		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
101	108	AMERICAN CYANAMID Wayne, N.J.	5,039.9	4.5	358.8	54	1.7	5,054.2	94	2,603.6	56
102	98	SCOTT PAPER Philadelphia	5,000.0	(7.3)	(69.9)	429	(147.2)	6,492.6	73	1,988.9	82
103	99	BASF Parsippany, N.J.	4,962.2	(7.8)	(47.5)	414	—	3,843.0	122	1,208.8	138
104	116	LEVI STRAUSS ASSOCIATES San Francisco	4,902.9	15.4	356.7	55	42.0	2,633.4	192	558.3	335
105	104	CHAMPION INTERNATIONAL Stamford, Conn.	4,786.4	(7.2)	40.3	255	(81.9)	8,655.9	39	3,671.1	39
106	119	INTEL Santa Clara, Calif.	4,778.6	15.9	818.6	22	25.9	6,292.1	76	4,417.9	26
107	113	GILLETTE Boston	4,705.6	7.1	427.4	47	16.2	3,886.7	120	1,157.1	143
108	111	DRESSER INDUSTRIES Dallas	4,702.3	3.8	146.8	144	(20.4)	3,250.8	144	1,761.2	97
109	107	BLACK & DECKER Towson, Md.	4,637.0	(4.9)	53.0	236	3.8	5,532.8	87	1,027.2	151
110	114	CHIQUITA BRANDS INTERNATIONAL Cincinnati	4,627.4	7.5	128.5	153	36.8	3,142.5	139	967.9	165
111	101	DANA Toledo	4,591.1	(12.1)	13.5	316	(82.2)	4,179.3	101	988.6	161
112	109	MEAD Dayton	4,579.3	(4.5)	6.9	328	(82.1)	3,986.2	114	1,478.4	111
113	112	JOHNSON CONTROLS Milwaukee	4,566.2	1.1	95.1	176	2.9	2,841.0	167	1,064.0	147
114	97	JAMES RIVER CORP. OF VIRGINIA Richmond	4,561.7	(15.9)	78.3	201	0.1	5,626.6	84	2,573.6	57
115	106	BETHLEHEM STEEL Bethlehem, Pa.	4,317.9	(12.4)	(767.0)	467	—	4,128.3	103	674.8	217
116	123	COCA-COLA ENTERPRISES Atlanta	4,050.8	0.3	(82.4)	432	(188.2)	6,676.6	71	1,442.6	115
117	118	BOISE CASCADE Boise, Idaho	4,043.7	(3.5)	(79.4)	429	(205.6)	4,729.2	91	1,447.6	114
118	122	GRUMMAN Bethpage, N.Y.	4,037.9	(0.1)	99.3	172	16.1	2,363.2	197	951.8	167
119	131	FMC Chicago	3,931.5	4.7	163.9	130	5.5	2,815.6	168	309.8	301
120	127	TYSON FOODS Springdale, Ark.	3,922.1	2.5	145.5	148	21.2	2,645.8	186	822.5	192
121	139	R.R. DONNELLEY & SONS Chicago	3,914.8	11.9	204.9	94	(9.3)	3,403.8	132	1,730.4	99
122	121	OWENS-ILLINOIS Toledo	3,852.4	(5.4)	(273.6)	434	—	4,399.1	97	414.9	269
123	155	RHÔNE-POULENC RORER Collegeville, Pa.	3,824.3	29.1	326.5	58	32,913.1	4,142.6	102	1,298.6	131
124	150	CROWN CORK & SEAL Philadelphia	3,807.4	23.6	128.1	157	19.6	2,982.5	164	1,084.4	145
125	128	AMAX New York	3,771.6	(1.0)	30.2	278	(86.6)	5,542.2	90	2,187.5	78
126	144	SCHERING-PLOUGH Madison, N.J.	3,687.8	11.0	645.6	29	14.2	4,013.2	106	1,346.1	128
127	142	J.E. SEAGRAM New York	3,680.0	7.9	536.7	37	(4.3)	8,935.1	38	5,382.2	18
128	120	EATON Cleveland	3,659.0	(10.8)	74.0	241	(58.7)	3,087.0	146	1,153.0	144
129	143	FARMLAND INDUSTRIES Kansas City, Mo.	3,652.1	8.1	N.A.		—	1,369.2	248	497.4	282
130	135	TIMES MIRROR Los Angeles	3,624.1	(0.2)	82.0	189	(54.6)	4,052.2	104	1,884.0	93
131	133	AMERICAN STANDARD New York	3,595.3	(1.5)	(143.2)	448	—	3,285.5	143	(313.0)	500
132	138	AVON PRODUCTS New York	3,593.3	2.4	135.7	150	(30.5)	1,728.5	225	251.6	318
133	132	INGERSOLL-RAND Woodcliff Lake, N.J.	3,586.2	(4.1)	150.6	142	(18.8)	2,979.6	157	1,633.1	102
134	137	AGWAY DeWitt, N.Y.	3,489.8	(3.3)	N.A.		—	1,880.5	236	253.4	317
135	153	UPJOHN Kalamazoo, Mich.	3,487.7	15.0	537.4	36	17.9	4,146.9	101	2,005.2	81
136	126	NAVISTAR INTERNATIONAL Chicago	3,487.0	(9.5)	(165.0)	440	—	3,443.0	128	577.0	261
137	145	PITNEY BOWES Stamford, Conn.	3,417.1	4.6	295.3	63	38.4	6,380.6	75	1,800.7	87
138	140	CUMMINS ENGINE Columbus, Ind.	3,405.5	(1.6)	(14.1)	394	—	2,041.2	231	623.8	233
139	125	INLAND STEEL INDUSTRIES Chicago	3,404.5	(12.0)	(275.1)	435	—	2,697.8	177	1,062.4	148
140	141	GANNETT Arlington, Va.	3,382.0	(2.0)	301.6	64	(20.0)	3,684.1	124	1,539.5	104
141	124	FINA Dallas	3,339.2	(16.1)	42.0	261	(66.5)	2,860.6	166	1,135.9	146
142	129	KERR-MCGEE Oklahoma City	3,307.0	(13.0)	102.0	168	(32.0)	3,421.0	129	1,516.0	106
143	154	CORNING Corning, N.Y.	3,286.8	10.3	316.8	59	8.5	3,852.6	119	2,018.8	80
144	162	UNIVERSAL Richmond	3,274.4	16.3	20.2	307	(55.2)	1,275.6	267	389.8	277
145	136	COMPAQ COMPUTER Houston	3,271.4	(9.8)	130.9	158	(71.2)	2,826.4	169	1,930.7	91
146	181	SUN MICROSYSTEMS Mountain View, Calif.	3,259.8	31.4	190.3	86	71.1	2,326.3	202	1,212.6	135
147	130	TELEDYNE Los Angeles	3,217.8	(14.5)	(25.4)	402	(126.8)	1,719.4	252	453.9	290
148	146	MASCO Taylor, Mich.	3,176.6	(1.8)	44.9	238	(67.7)	3,785.8	121	1,798.9	90
149	205	TYCO LABORATORIES Exeter, N.H.	3,107.9	47.8	117.5	159	(1.4)	2,393.0	213	905.2	174
150	152	AMP Harrisburg, Pa.	3,095.0	1.7	259.7	72	(9.5)	3,006.9	145	1,913.0	83

The definitions, explanations, and footnotes underlying the figures in this directory are on page 242.

MARKET VALUE 3/6/92	PROFITS AS % OF . . .			EARNINGS PER SHARE			TOTAL RETURN TO INVESTORS		Industry table number	RANK 1991
	SALES	ASSETS	COMMON STOCKHOLDERS' EQUITY		% change from 1990	1981-91 annual growth rate	1991	1981-91 annual rate		
$ millions Rank	% Rank	% Rank	% Rank	$ 1991		% Rank	% Rank	% Rank		
5,772.4	7.1	7.1	13.8	3.85	3.8	6.5	26.0	19.9		101
3,189.4	(1.4)	(1.1)	(3.5)	(0.95)	(147.3)	—	(6.0)	19.2		102
N.A.	(1.0)	(1.2)	—	N.A.	—	—	—	—		103
N.A.	7.3	13.5	71.6	N.A.	—	—	—	—		104
2,450.8	0.8	0.5	0.3	0.14	(93.4)	(21.5)	(4.6)	4.7		105
13,009.6	17.1	13.0	18.5	3.92	22.5	34.4	27.3	20.6		106
10,493.2	9.1	11.0	38.7	1.94	21.2	14.2	81.6	34.5		107
2,762.7	3.1	4.5	8.3	1.09	(19.9)	(6.0)	(0.1)	5.2		108
1,537.6	1.1	1.0	5.7	0.81	(3.6)	(6.3)	36.1	4.0		109
1,660.0	2.8	4.1	13.3	2.55	14.3	12.2	26.7	27.2		110
1,491.7	0.3	0.3	1.4	0.33	(82.2)	(17.2)	(2.1)	8.3		111
2,114.7	0.2	0.2	0.5	0.12	(80.6)	(24.5)	38.1	15.4		112
1,541.9	2.1	3.3	8.2	2.19	2.8	2.5	50.3	15.8		113
1,681.1	1.7	1.4	2.4	0.66	(73.1)	(2.2)	(21.5)	10.6		114
1,117.1	(17.8)	(18.6)	(118.9)	(10.41)	—	—	(2.5)	(2.9)		115
1,766.9	(2.0)	(1.2)	(6.4)	(0.79)	(221.5)	—	(0.4)	—		116
863.2	(2.0)	(1.7)	(6.6)	(2.46)	(251.9)	—	(9.0)	5.3		117
627.5	2.5	4.2	10.1	2.88	16.1	14.8	(5.7)	7.0		118
1,676.3	4.2	5.8	52.9	4.52	5.1	0.9	50.2	27.6		119
2,404.7	3.7	5.5	17.7	1.05	16.0	49.9	30.1	47.3		120
3,914.8	5.2	6.0	11.8	2.64	(9.3)	9.7	28.5	20.8		121
1,472.4	(7.1)	(6.2)	(65.9)	(6.83)	—	—	N.A.	—		122
7,929.3	8.5	7.9	32.7	2.37	23,600.0	14.7	86.8	33.2		123
2,628.0	3.4	4.3	11.8	4.43	19.4	11.6	58.1	24.5		124
1,803.6	0.8	0.5	1.3	0.34	(86.8)	(20.4)	(1.6)	(6.7)		125
11,426.7	17.5	16.1	48.0	3.01	20.4	13.8	51.7	29.2		126
N.A.	14.6	6.0	—	N.A.	—	—	—	—		127
2,431.7	2.0	2.4	6.4	2.19	(56.6)	0.9	34.5	15.3		128
N.A.	—	—	—	N.A.	—	—	—	—		129
4,534.1	2.3	2.0	4.3	0.64	(54.3)	(5.3)	20.3	13.8		130
N.A.	(4.0)	(4.4)	—	N.A.	—	—	—	—		131
3,347.4	3.8	7.9	46.7	1.78	(36.7)	(7.0)	72.4	11.9		132
3,295.6	4.2	5.1	9.2	2.91	(18.0)	(2.8)	51.7	14.0		133
N.A.	—	—	—	N.A.	—	—	—	—		134
7,008.6	15.4	13.0	26.3	2.96	19.4	11.4	11.0	19.9		135
938.4	(4.7)	(4.8)	(58.4)	(0.77)	—	—	16.7	(9.5)		136
5,159.8	8.6	4.6	16.4	3.69	37.7	14.6	62.6	29.6		137
948.0	(0.4)	(0.7)	(4.3)	(1.49)	—	—	48.2	8.1		138
677.2	(8.1)	(10.2)	(35.1)	(9.88)	—	—	(12.1)	1.4		139
6,735.9	8.9	8.2	19.6	2.00	(15.3)	6.6	30.0	17.6		140
1,162.8	1.3	1.5	3.7	2.71	(66.6)	(8.9)	(10.2)	6.3		141
1,743.6	3.1	3.0	6.7	2.10	(30.2)	(6.4)	(10.9)	3.7		142
6,324.8	9.6	8.2	15.6	1.69	9.0	9.8	74.4	23.1		143
919.9	0.6	1.6	5.2	1.23	(54.3)	(3.6)	206.5	24.7		144
2,483.9	4.0	4.6	6.8	1.49	(71.0)	—	(53.2)	—		145
3,029.3	5.8	8.2	15.7	1.85	52.9	—	32.7	—		146
1,461.5	(0.8)	(1.5)	(5.6)	(0.46)	(126.9)	—	38.3	5.5		147
4,004.1	1.4	1.2	2.5	0.30	(67.0)	(10.0)	40.8	12.2		148
1,706.3	3.8	4.9	13.0	2.57	(11.4)	14.4	(19.3)	29.6		149
6,509.5	8.4	8.6	13.6	2.45	(9.3)	7.0	38.5	15.8		150

CONTINUED

THE FORTUNE

500

LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK 1991	1990		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
151	149	HARRIS Melbourne, Fla.	3,081.5	(0.5)	19.5		(85.1)	2,485.8		1,028.4	
152	171	VF Wyomissing, Pa.	2,988.7	13.9	161.3		98.9	2,126.9		938.1	
153	151	MAYTAG Newton, Iowa	2,970.6	(2.8)	79.0		(20.1)	2,535.1		1,010.6	
154	139	UNION CAMP Wayne, N.J.	2,967.1	4.5	124.8		(45.6)	4,697.7		1,936.3	
155	158	AIR PRODUCTS & CHEMICALS Allentown, Pa.	2,950.4	1.4	248.9	73	8.3	4,227.5		1,841.3	
156	157	JEFFERSON SMURFIT St. Louis	2,941.6	1.0	(77.1)		(454.0)	2,460.1		(976.9)	
157	147	HERCULES Wilmington, Del.	2,928.9	(9.0)	94.9		(1.2)	3,466.8		1,918.4	
158	170	BERKSHIRE HATHAWAY Omaha	2,913.5	11.0	439.9	9	11.7	14,461.9	5	7,378.9	5
159	173	BAKER HUGHES Houston	2,911.9	11.4	173.5		22.0	2,905.6		1,545.4	
160	164	HERSHEY FOODS Hershey, Pa.	2,901.6	6.8	219.5	77	1.7	2,341.8		1,335.3	
161	117	WHITMAN Rolling Meadows, Ill.	2,866.2*	(32.3)	97.6		405.7	2,123.0		461.9	
162	167	GEO. A. HORMEL Austin, Minn.	2,836.2	5.8	86.4		12.0	856.8		583.4	
163	163	PREMARK INTERNATIONAL Deerfield, Ill.	2,815.7	3.1	102.3		96.6	2,034.0		836.4	
164	148	OWENS-CORNING FIBERGLAS Toledo	2,783.0	(10.5)	(742.0)		(1,116.4)	2,106.0		(1,076.0)	
165	160	ROHM & HAAS Philadelphia	2,775.0	(2.2)	163.0		(21.2)	2,897.0		1,231.0	
166	187	SEAGATE TECHNOLOGY Scotts Valley, Calif.	2,691.4	10.7	67.5		(42.5)	1,880.1		766.3	
167	182	EG&G Wellesley, Mass.	2,691.3	8.6	81.2		9.8	697.9		420.7	
168	192	PENNZOIL Houston	2,685.1	13.5	21.0		(77.6)	5,231.4		1,165.0	
169	176	ILLINOIS TOOL WORKS Glenview, Ill.	2,647.3	3.8	180.6		(1.0)	2,257.1		1,212.1	
170	165	MAPCO Tulsa	2,646.4*	(2.3)	125.9		(3.2)	1,702.3		412.7	
171	134	WICKES Santa Monica, Calif.	2,621.9*	(28.1)	(91.6)		(139.2)	2,299.7		950.9	
172	166	DIAMOND SHAMROCK San Antonio	2,575.9	(4.9)	37.1		(52.1)	1,222.3		437.6	
173	178	ETHYL Richmond	2,574.8	2.4	206.7		(11.0)	7,905.3		1,219.3	
174	196	SHERWIN-WILLIAMS Cleveland	2,552.0	11.8	128.2		4.5	1,611.9		868.0	
175	175	AVERY DENNISON Pasadena, Calif.	2,545.1	(1.7)	63.0		967.8	1,740.4		825.0	
176	•	TOTAL PETROLEUM Denver	2,516.1	—	(11.5)		—	1,040.4		437.1	
177	189	TEMPLE-INLAND Diboll, Texas	2,507.1	4.4	138.4		(40.5)	10,068.5		1,531.5	
178	172	QUANTUM CHEMICAL New York	2,486.3	(5.0)	(123.3)		(681.6)	3,198.9		(203.3)	
179	184	B.F. GOODRICH Akron, Ohio	2,471.6	0.5	(80.6)		(159.1)	2,270.6		1,214.0	
180	168	PHELPS DODGE Phoenix	2,461.0	(7.0)	272.9		(40.0)	3,051.1		1,859.3	
181	188	LAND O'LAKES Arden Hills, Minn.	2,458.1	1.8	N.A.		—	822.9		299.8	
182	179	PARKER HANNIFIN Cleveland	2,440.8	(2.8)	59.2		(46.9)	1,890.4		943.5	
183	177	ARMSTRONG WORLD INDUSTRIES Lancaster, Pa.	2,439.3	(3.8)	48.2		(65.8)	2,149.9		885.5	
184	156	ENGELHARD Iselin, N.J.	2,436.4	(17.2)	87.9		25.1	1,256.1		756.6	
185	209	READER'S DIGEST ASSOCIATION Pleasantville, N.Y.	2,393.8	16.4	209.1		18.8	1,605.3		759.6	
186	161	PACCAR Bellevue, Wash.	2,376.8	(15.6)	55.2		(13.4)	2,737.6		1,032.3	
187	180	NATIONAL STEEL Pittsburgh	2,329.8	(7.1)	(189.0)		(967.0)	1,985.6		N.A.	
188	185	WESTVACO New York	2,321.8	(4.7)	137.4		(27.0)	3,461.8		1,699.5	
189	190	MAXXAM Houston	2,317.3	(3.1)	57.5		(64.5)	3,215.0		459.6	
190	193	MCDERMOTT New Orleans	2,299.5	(1.2)	(10.7)		(129.9)	2,647.4		673.1	
191	174	OLIN Stamford, Conn.	2,290.0	(12.4)	(13.0)		(115.5)	2,012.0		666.0	
192	284	BALL Muncie, Ind.	2,267.4	67.1	66.2		31.9	1,558.6		607.0	
193	194	KNIGHT-RIDDER Miami	2,243.8	(3.0)	132.1		(11.4)	2,332.8		1,148.6	
194	200	DOVER New York	2,195.8	(1.7)	128.2		(17.6)	1,356.6		828.4	
195	207	INTERNATIONAL MULTIFOODS Minneapolis	2,191.9	5.4	35.2		38.9	805.6		320.6	
196	212	BECTON DICKINSON Franklin Lakes, N.J.	2,172.2	7.9	189.8		4.1	2,780.0		1,363.8	
197	214	DEAN FOODS Franklin Park, Ill.	2,159.5	8.5	72.5		18.5	817.0		416.6	
198	259	HASBRO Pawtucket, R.I.	2,141.1	40.9	81.7		(8.4)	1,950.1		955.3	
199	198	SEQUA New York	2,136.9	(4.7)	N.A.		—	2,100.0		N.A.	
200	294	LORAL New York	2,136.0	63.3	90.4		15.5	2,532.2		672.0	

The definitions, explanations, and footnotes underlying the figures in this directory are on page 242.

MARKET VALUE 3/6/92		PROFITS AS % OF . . .						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				Industry table number	RANK 1991
		SALES		ASSETS		COMMON STOCK-HOLDERS' EQUITY			% change from 1990	1981-91 annual growth rate		1991		1981-91 annual rate			
$ millions	Rank	%	Rank	%	Rank	%	Rank	$ 1991		%	Rank	%	Rank	%	Rank		
1,231.6	231	0.6	454	0.8	350	1.9	329	0.50	(84.8)	(17.4)	278	40.9	87	(1.1)	138	3	151
2,423.1	150	5.4	135	7.6	109	16.7	105	2.75	103.7	13.0	79	122.9	22	26.8	44	3	152
1,967.9	167	2.7	261	3.1	256	7.8	249	0.75	(20.2)	1.2	92	49.8	65	15.0	116	3	153
3,533.8	98	4.2	179	2.7	278	6.4	268	1.80	(46.3)	(2.5)	213	44.1	74	16.2	97	3	154
4,837.8	83	8.4	67	5.9	155	13.5	148	4.45	7.2	7.2	143	38.1	153	17.4	158	3	155
N.A.		(2.6)	413	(3.1)	413	—		N.A.	—	—		—		—		3	156
2,375.5	152	3.2	233	2.7	274	4.9	284	2.01	(1.5)	(4.2)	231	57.8	32	13.5	87	3	157
9,974.0	37	15.1	3	3.0	237	6.0	277	384.00	11.7	19.7	23	35.6	96	32.1	13	3	158
2,668.9	141	6.0	96	6.0	143	11.2	167	1.26	18.9	(9.3)	263	(23.4)	411	(3.2)	141	3	159
3,708.9	96	7.6	78	9.4	74	16.4	106	2.43	1.7	10.0	111	21.1	257	25.8	70	3	160
1,549.3	205	3.4	221	4.6	202	21.1	57	0.92	—	(5.7)	243	76.1	9	19.0	126	3	161
1,429.0	218	3.0	240	10.1	44	14.8	128	1.13	11.9	12.3	81	13.5	388	28.2	56	3	162
1,528.6	208	3.6	212	5.0	184	12.2	157	3.25	98.2	—		142.7	11	—		3	163
1,535.9	207	(26.7)	412	(35.2)	412	—		(17.52)	(1,112.7)	—		39.8	89	23.3	61	3	164
3,351.8	104	5.9	116	5.6	164	12.8	159	2.45	(21.0)	7.4	140	28.5	297	19.4	118	3	165
1,019.9	274	2.5	270	3.6	240	8.8	233	1.02	(46.9)	32.8	6	(22.3)	410	2.3	145	3	166
1,425.8	220	3.0	239	11.6	30	19.3	81	2.91	11.9	9.2	101	63.8	51	11.5	93	3	167
1,846.8	178	0.8	446	0.4	391	1.8	330	0.52	(78.1)	(18.9)	284	(10.6)	382	8.5	131	3	168
3,517.2	97	6.8	92	8.0	97	14.9	126	3.25	(3.0)	13.6	76	33.9	106	26.6	48	3	169
1,793.8	179	4.8	159	7.4	118	30.5	27	4.20	1.7	9.1	104	48.1	311	18.6	119	3	170
N.A.		(3.5)	420	(4.0)	414	—		N.A.	—	—		—		—		3	171
620.1	311	1.4	328	3.0	236	8.5	234	1.39	(54.3)	—		2.4	412	—		3	172
2,943.1	114	8.0	70	2.6	282	16.9	102	1.75	(10.3)	11.9	85	21.9	267	30.4	31	3	173
2,475.9	146	5.0	147	8.0	96	14.8	129	1.45	2.8	14.2	71	45.7	70	28.6	50	3	174
1,663.6	192	2.5	272	3.6	238	7.6	255	1.02	920.0	3.3	181	22.1	249	16.5	109	3	175
358.3	416	(0.5)	378	(1.1)	389	(3.6)	310	(0.45)	(138.8)	—		(22.6)	414	2.8	142	3	176
2,902.8	116	5.5	128	1.4	331	9.0	216	2.51	(40.2)	—		65.6	46	—		3	177
413.0	351	(5.0)	418	(3.9)	411	—		(4.26)	(639.2)	—		1.0	411	5.1	151	3	178
1,216.5	234	(3.3)	421	(3.5)	411	(8.1)	335	(3.50)	(169.4)	—		17.3	301	11.6	91	3	179
2,816.1	119	11.1	34	8.9	79	14.7	132	7.86	(40.1)	9.7	96	23.8	233	10.4	262	3	180
N.A.		—		—		—		N.A.	—	—		—		—		3	181
1,591.9	198	2.4	276	3.1	255	6.3	274	1.23	(46.1)	(3.6)	224	32.6	124	10.8	110	3	182
1,182.7	237	2.0	305	2.2	293	4.7	296	0.77	(75.3)	(2.0)	208	22.0	263	17.5	104	3	183
1,670.1	164	3.6	211	7.0	124	11.6	163	1.96	24.8	—		76.5	43	10.0	102	3	184
5,652.1	75	8.7	64	13.0	34	28.6	29	1.74	17.6	—		67.0	48	—		20	185
1,885.6	173	2.3	281	2.0	308	5.3	289	1.63	(10.9)	(3.6)	224	53.7	37	14.7	77	3	186
N.A.		(8.1)	435	(9.5)	435	—		N.A.	—	—		—		—		3	187
2,294.8	156	5.9	117	4.0	328	8.1	241	2.10	(27.6)	1.8	90	53.5	38	18.2	113	3	188
380.7	361	2.5	271	1.8	371	12.5	151	6.08	(64.3)	23.3	4	(5.6)	378	7.0	126	3	189
N.A.		(0.5)	379	(0.4)	374	—		N.A.	—	—		—		—		3	190
981.6	261	(0.6)	382	(0.6)	379	(2.8)	308	(0.92)	(122.8)	—		12.2	395	9.9	105	3	191
979.2	262	2.9	251	4.2	213	10.1	211	2.42	19.2	5.8	132	46.8	71	20.2	83	3	192
3,096.8	111	5.9	118	5.7	161	11.5	160	2.55	(13.3)	5.1	156	19.0	285	16.1	111	20	193
2,351.7	153	5.8	124	9.5	72	15.5	117	2.15	(15.7)	4.8	144	7.2	408	12.2	222	3	194
507.8	334	1.6	310	4.4	209	11.0	192	2.71	38.3	1.7	190	22.1	248	16.7	103	3	195
2,564.5	140	8.7	56	6.6	128	14.5	134	4.86	4.1	10.4	107	(6.6)	381	13.4	82	22	196
1,014.7	267	3.4	228	8.9	80	17.4	95	1.79	17.2	13.0	78	16.0	278	26.0	59	3	197
2,097.1	163	3.8	200	4.2	219	8.5	227	1.41	(8.4)	23.0	5	161.4	5	48.6	3	22	198
438.6	351	—		—		—		N.A.	—	—		(24.2)	412	4.5	148	3	199
1,042.5	254	4.2	177	3.6	241	13.4	150	3.55	14.1	13.5	70	20.5	259	11.1	243	3	200

CONTINUED

THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

201–250

RANK 1991	(1990)		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
201	169	WANG LABORATORIES Lowell, Mass.	2,127.1	(19.3)	(385.5)	456	—	1,417.9	244	52.7	454
202	197	MANVILLE Denver	2,100.0	(7.6)	N.A.		—	N.A.		N.A.	
203	213	POLAROID Cambridge, Mass.	2,096.0	5.3	683.7	27	352.8	1,889.3	208	772.9	199
204	183	BRUNSWICK Skokie, Ill.	2,088.3	(15.7)	(23.7)	420	(133.4)	1,856.9	212	778.7	198
205	195	BURLINGTON INDUST. CAPITAL Greensboro, N.C.	2,080.9	(9.1)	(68.6)**	423	—	1,914.2	205	(246.8)	474
206	191	TRIBUNE Chicago	2,034.7	(14.1)	142.0	89	—	2,795.3	155	851.7	185
207	237	LIZ CLAIBORNE New York	2,029.3	15.7	222.7	76	8.2	1,174.9	273	909.6	177
208	219	WILLAMETTE INDUSTRIES Portland, Ore.	2,004.5	5.2	45.8	238	(64.6)	2,219.1	181	994.5	163
209	217	CENTRAL SOYA Fort Wayne	2,000.4	2.6	24.8	301	6.6	842.7	324	226.1	374
210	229	E-SYSTEMS Dallas	1,997.8	10.4	109.5	139	27.9	1,075.4	288	750.1	206
211	231	GENCORP Fairlawn, Ohio	1,993.0	10.9	32.0	278	(49.2)	1,113.0	282	213.0	382
212	203	TOSCO Stamford, Conn.	1,986.6	(8.3)	75.4	162	(38.8)	970.4	306	496.8	292
213	215	STANLEY WORKS New Britain, Conn.	1,962.2	(0.7)	82.6	151	(22.8)	1,547.9	234	705.5	212
214	236	HARSCO Wormleysburg, Pa.	1,956.3	10.7	76.5	174	5.6	1,059.7	293	479.7	260
215	221	BURLINGTON RESOURCES Seattle	1,946.5	3.5	205.4	83	(10.3)	6,290.3	79	2,906.5	62
216	218	MCGRAW-HILL New York	* 943.0	0.2	148.0	103	(14.2)	2,525.2	165	999.0	162
217	220	TANDEM COMPUTERS Cupertino, Calif.	1,939.7	3.1	35.2	268	(71.1)	1,931.9	203	1,247.9	129
218	199	ASARCO New York	1,938.7	(13.5)	46.0	233	(69.2)	2,937.4	148	1,494.9	102
219	247	MORTON INTERNATIONAL Chicago	1,920.8	16.0	138.3	111	2.6	1,925.8	204	1,103.4	150
220	225	ADOLPH COORS Golden, Colo.	1,918.4	2.7	25.5	299	(34.4)	1,986.3	197	1,099.4	151
221	222	SPRINGS INDUSTRIES Fort Mill, S.C.	1,891.3	0.6	27.1	295	—	1,251.3	269	568.8	240
222	240	DOW CORNING Midland, Mich.	1,877.3	9.3	152.9**	98	(10.6)	2,119.9	188	1,107.5	149
223	210	MURPHY OIL El Dorado, Ark.	1,877.3*	(8.5)	(11.2)	383	(109.8)	2,174.6	183	1,200.8	138
224	206	USG Chicago	1,840.0	(12.5)	(161.0)	446	—	1,626.0	228	(1,680.0)	484
225	208	CROWN CENTRAL PETROLEUM Baltimore	1,764.8	(14.5)	(6.0)	375	(123.2)	687.8	365	310.7	329
226	226	MID-AMERICA DAIRYMEN Springfield, Mo.	1,742.4	(6.5)	N.A.		—	371.6	465	135.2	429
227	239	DOW JONES New York	1,731.6	0.2	72.2	164	(32.5)	2,470.6	168	1,435.6	122
228	227	LOUISIANA-PACIFIC Portland, Ore.	1,714.2	(5.7)	55.9	213	(38.6)	2,107.1	190	1,203.6	137
229	243	NATIONAL SEMICONDUCTOR Santa Clara, Calif.	1,711.2	2.2	(151.4)	443	—	1,190.7	269	658.3	227
230	246	SUNDSTRAND Rockford, Ill.	1,708.5	3.1	108.8	136	(4.8)	1,719.5	221	692.4	214
231	245	SONOCO PRODUCTS Hartsville, S.C.	1,703.9	2.1	94.8	149	88.2	1,135.9	279	562.3	241
232	234	NEW YORK TIMES New York	1,703.1	(4.1)	47.0	231	(27.5)	2,128.0	185	1,075.2	154
233	202	AMDAHL Sunnyvale, Calif.	1,702.5	(23.3)	10.6**	348	(94.2)	2,335.6	173	1,337.5	93
234	252	ECHLIN Branford, Conn.	1,694.9	5.5	41.7	246	(11.8)	1,191.8	268	649.4	232
235	216	TRINOVA Maumee, Ohio	1,681.2	(14.0)	(184.1)	451	(504.9)	1,070.4	290	374.6	301
236	235	ARVIN INDUSTRIES Columbus, Ind.	1,679.6	(5.1)	23.2	307	(32.2)	1,125.0	280	389.8	293
237	258	RUBBERMAID Wooster, Ohio	1,673.2	8.7	162.6	97	13.3	1,244.5	260	885.7	181
238	223	CYPRUS MINERALS Englewood, Colo.	1,659.3	(11.5)	42.7	242	(61.5)	1,965.7	201	1,290.4	126
239	311	STORAGE TECHNOLOGY Louisville, Colo.	1,653.3	40.5	93.1	151	34.3	1,700.2	225	884.0	183
240	268	YORK INTERNATIONAL York, Pa.	1,652.7	14.1	(4.3)‡	372	(133.3)	1,205.6	265	253.8	356
241	264	MATTEL El Segundo, Calif.	1,650.0	12.2	112.8	131	23.7	1,060.7	292	438.3	276
242	241	TIMKEN Canton, Ohio	1,647.4	(3.2)	(35.7)	410	(164.6)	1,759.1	217	1,019.0	160
243	261	CLOROX Oakland	1,646.5	9.6	52.7	221	(65.7)	1,602.7	232	784.3	195
244	269	IMCERA GROUP Northbrook, Ill.	1,646.4	14.0	88.2	155	56.1	2,250.2	179	1,084.2	153
245	248	WITCO New York	1,641.0	(0.6)	73.5	186	8.1	1,198.3	267	625.7	237
246	303	WEST POINT-PEPPERELL West Point, Ga.	1,634.1*	34.6	N.A.		—	N.A.		N.A.	
247	271	FRUIT OF THE LOOM Chicago	1,628.1	14.1	111.0	134	44.0	2,114.9	189	688.7	215
248	285	CONNER PERIPHERALS San Jose, Calif.	1,626.5	20.4	92.5	152	(28.9)	1,334.5	252	712.8	209
249	232	ARMCO Parsippany, N.J.	1,624.0	(9.2)	(336.5)	456	—	1,846.6	213	559.4	242
250	230	HARNISCHFEGER INDUSTRIES Brookfield, Wis.	1,623.9	(10.0)	64.6	199	(11.6)	1,506.9	236	594.4	237

The definitions, explanations, and footnotes underlying the figures in this directory are on page 242.

MARKET VALUE 3/6/92		PROFITS AS % OF . . .						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				Industry table number	RANK 1991
		SALES		ASSETS		COMMON STOCKHOLDERS' EQUITY			% change from 1990	1981–91 annual growth rate		1991		1981–91 annual rate			
$ millions	Rank	%	Rank	%	Rank	%	Rank	$ 1991		%	Rank	%	Rank	%	Rank		
1,082.8	249	(18.1)	468	(27.2)	467	(731.5)	422	(2.31)	—	—		9.5	314	(15.6)	359	6	201
419.8	355	—		—		—		N.A.	—	—		70.3	74	(23.4)	363	9	202
1,417.9	221	32.6	1	36.2	2	87.4	2	12.54	470.0	38.7	6	16.7	274	12.9	215	22	203
1,329.1	227	(1.1)	390	(1.3)	392	(3.0)	355	(0.27)	(133.7)	—		59.4	102	22.9	90	27	204
N.A.		(3.3)	422	(3.6)	422	—		N.A.	—	—		—		—		24	205
2,827.6	125	7.0	88	5.1	187	15.2	124	1.94	—	—		19.1	264	—		20	206
3,407.8	101	11.0	35	15.0	9	24.5	43	2.61	10.1	35.2	1	43.1	159	43.5	5	2	207
1,962.1	170	2.3	282	2.1	303	4.6	298	1.80	(64.7)	4.8	170	42.5	161	17.2	161	9	208
N.A.		1.2	333	2.9	263	—		N.A.	—	—		—		—		8	209
1,103.4	245	5.5	129	10.2	63	14.6	133	3.35	22.3	14.9	45	12.5	297	13.7	205	7	210
440.3	349	1.6	309	2.9	266	15.0	125	1.00	(49.7)	(3.0)	219	95.3	40	10.2	256	1	211
878.0	275	3.8	207	7.8	106	18.6	78	2.39	(55.5)	(7.3)	235	75.5	63	(9.4)	350	18	212
2,104.4	163	4.2	178	5.3	178	11.7	179	2.02	(20.2)	3.7	176	45.5	130	17.1	162	14	213
909.2	271	3.9	194	7.2	116	16.0	113	2.91	5.1	3.3	182	19.3	262	13.8	200	14	214
4,755.7	85	10.6	38	3.3	249	7.1	262	1.54	(4.3)	—		(5.5)	375	—		16	215
2,838.5	123	7.6	77	5.9	156	14.8	129	3.03	(14.2)	4.4	173	13.4	289	11.8	210	20	216
1,374.0	224	1.8	304	1.8	310	2.8	321	0.33	(70.8)	(0.9)	204	(3.2)	366	(2.1)	339	6	217
1,079.6	250	2.4	280	1.6	323	3.1	316	1.12	(68.9)	(3.1)	220	(16.1)	399	0.6	331	16	218
2,974.4	116	7.2	85	7.2	118	12.5	166	2.85	1.8	—		29.8	214	—		5	219
715.5	296	1.3	329	1.3	332	2.3	326	0.68	(35.2)	(7.5)	266	4.9	337	9.8	261	3	220
680.6	302	1.4	324	2.2	300	4.8	293	1.53	—	(3.8)	228	45.2	152	14.7	89	24	221
N.A.		8.1	71	7.2	117	13.8	142	N.A.	—	—		—		—		5	222
1,534.5	205	(0.6)	381	(0.5)	377	(0.9)	349	(0.28)	(108.3)	—		(9.6)	388	4.5	311	18	223
90.6	425	(8.7)	464	(9.9)	451	—		(2.91)	—	—		99.9	30	5.6	305	4	224
240.9	392	(0.3)	374	(0.9)	384	(1.9)	352	(0.61)	(123.0)	—		0.7	345	7.2	284	18	225
N.A.		—		—		—		N.A.	—	—		—		—		8	226
3,224.2	108	4.2	182	2.9	264	5.0	288	0.71	(33.0)	(0.7)	203	11.0	309	6.7	299	20	227
2,160.0	160	3.3	232	2.7	279	4.6	297	1.55	(37.0)	(3.7)	227	66.6	82	14.4	93	9	228
1,137.6	242	(8.8)	455	(12.7)	457	(24.5)	394	(1.56)	—	—		48.6	123	0.2	332	7	229
1,567.9	200	6.4	101	6.3	144	15.7	116	3.02	(2.9)	1.5	191	32.0	204	9.8	262	1	230
1,708.2	184	5.6	127	8.3	89	16.9	104	2.20	89.7	9.7	114	8.9	320	22.2	99	9	231
2,265.6	157	2.8	257	2.2	296	4.4	303	0.61	(28.2)	(1.0)	206	16.7	275	16.0	176	20	232
1,954.3	171	0.6	356	0.5	357	0.8	340	0.10**	(94.0)	(11.2)	269	12.3	300	8.9	265	6	233
947.0	265	2.5	274	3.5	243	6.4	271	0.75	(11.8)	7.9	133	35.2	193	12.7	217	17	234
666.8	304	(10.9)	459	(17.2)	462	(49.1)	409	(6.52)	(531.8)	—		11.5	305	12.9	214	11	235
493.7	339	1.4	326	2.1	304	4.0	308	0.81	(42.6)	(0.1)	201	31.0	207	15.7	180	17	236
5,084.0	79	9.7	46	13.1	33	18.4	82	1.02	13.3	17.3	34	84.3	60	34.8	18	21	237
858.8	279	2.6	264	2.2	298	2.6	323	0.72	(69.7)	—		28.5	221	—		15	238
2,729.5	132	5.6	126	5.5	171	10.5	202	2.33	6.9	(21.5)	282	85.5	48	(19.5)	361	6	239
895.6	272	(0.3)	372	(0.4)	373	(1.7)	351	(0.18)‡	—	—		N.A.		—		11	240
2,001.4	166	6.8	91	10.6	55	25.7	39	1.77	22.9	33.8	9	107.0	32	14.7	188	26	241
766.0	289	(2.2)	408	(2.0)	404	(3.5)	357	(1.21)	(165.4)	—		16.9	272	0.1	334	11	242
2,543.5	141	3.2	236	3.3	248	6.7	267	0.98	(65.0)	1.7	189	16.7	273	27.0	60	23	243
2,575.4	139	5.4	137	3.9	231	8.2	243	3.73	54.1	(4.0)	233	74.7	65	20.0	121	19	244
1,009.9	258	4.5	168	6.1	150	11.7	177	3.21	8.8	5.7	157	43.2	158	19.8	124	18	245
978.3	263	—		—		—		N.A.	—	—		23.2	244	12.3	219	24	246
2,505.6	143	6.8	93	5.2	181	16.1	111	1.60	28.0	—		211.3	8	—		2	247
1,154.5	240	5.7	122	6.9	126	13.0	157	1.57	(37.5)	—		(33.3)	421	—		6	248
531.0	325	(20.7)	470	(18.2)	463	(68.4)	412	(3.89)	—	—		7.0	329	(13.5)	355	15	249
589.5	314	4.0	192	4.3	212	10.9	196	2.08	(8.4)	(3.4)	223	30.3	208	7.0	287	11	250

CONTINUED

THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

251–300

RANK 1991	1990		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
251	233	**GENERAL SIGNAL** Stamford, Conn.	1,620.0	(9.4)	54.2	216	—	1,180.2	271	476.4	262
252	263	**SHAW INDUSTRIES** Dalton, Ga.	1,607.8	9.0	33.1	268	(49.5)	813.5	334	205.2	386
253	250	**FREEPORT-MCMORAN** New Orleans	1,603.3	(0.9)	41.0‡	249	(86.9)	3,565.4	126	388.3	295
254	249	**NATIONAL SERVICE INDUSTRIES** Atlanta[1]	1,601.7	(2.8)	32.2	272	(67.7)	1,012.0	304	660.6	226
255	201	**INTERCO** St. Louis[1]	1,597.1	(28.2)	(176.3)	449	(600.9)	1,145.6	277	(1,135.2)	483
256	242	**CABOT** Boston[1]	1,579.9	(6.2)	127.3	124	79.2	1,462.4	241	426.9	283
257	255	**LAFARGE** Reston, Va.[1]	1,568.8	(1.8)	(50.4)	418	(200.7)	1,836.4	214	841.9	186
258	211	**ORYX ENERGY** Dallas	1,537.0	(24.7)	19.0	327	(91.6)	4,405.0	106	534.0	245
259	280	**BAUSCH & LOMB** Rochester, N.Y.	1,535.5	10.8	27.6‡	292	(79.0)	1,769.5	216	819.3	193
260	287	**DURACELL INTERNATIONAL** Bethel, Conn.[1,2]	1,524.1	14.0	(34.2)‡	409	(689.7)	2,054.1	193	716.1	208
261	257	**RELIANCE ELECTRIC** Cleveland	1,516.0	(2.0)	34.0	265	(29.2)	1,154.0	276	67.0	453
262	254	**MASCO INDUSTRIES** Taylor, Mich.	1,501.7	(6.3)	(9.0)	380	—	1,973.3	200	326.7	320
263	273	**DELUXE** St. Paul	1,490.2	4.7	182.9	89	6.2	1,098.4	284	748.0	207
264	266	**LUBRIZOL** Wickliffe, Ohio	1,485.1	1.5	123.7	128	(34.9)	1,171.7	275	794.5	194
265	262	**NUCOR** Charlotte, N.C.	1,465.5	(1.2)	64.7	197	(13.8)	1,181.6	270	711.6	211
266	282	**FEDERAL PAPER BOARD** Montvale, N.J.	1,435.0	4.7	82.4	168	(30.3)	2,492.7	166	921.2	175
267	•	**DEL MONTE** San Francisco	1,435.0	—	(27.0)	402	—	1,212.0	264	85.0	447
268	293	**AMERICAN GREETINGS** Cleveland[1]	1,431.8	9.4	82.5	167	14.3	1,255.7	257	656.6	228
269	288	**MCCORMICK** Sparks, Md.[1]	1,427.9	6.9	80.9	172	16.7	1,032.0	301	389.2	294
270	256	**FLEETWOOD ENTERPRISES** Riverside, Calif.[1]	1,415.2	(9.5)	30.4	277	(44.7)	764.6	345	428.1	282
271	267	**WASHINGTON POST** Washington, D.C.	1,399.2	(4.2)	70.8	192	(59.4)	1,487.7	238	924.3	174
272	251	**DR HOLDINGS INC. OF DELAWARE** Bedford, Mass.	1,391.1	(13.9)	N.A.		—	N.A.		N.A.	
273	329	**ROHR** Chula Vista, Calif.[1]	1,386.2	27.0	30.5	276	78,148.7	1,408.1	246	441.4	274
274	289	**VARIAN ASSOCIATES** Palo Alto, Calif.[1]	1,380.7	3.5	57.5	209	—	884.2	318	434.3	280
275	260	**COLTEC INDUSTRIES** New York	1,373.0	(9.5)	83.8	163	(36.9)	817.8	331	(503.0)	479
276	279	**NACCO INDUSTRIES** Mayfield Heights, Ohio	1,369.2	(1.9)	20.5	320	(33.7)	1,608.5	230	350.3	309
277	300	**NALCO CHEMICAL** Naperville, Ill.	1,356.4	10.2	137.8	112	5.1	1,324.4	253	528.7	247
278	321	**GREAT LAKES CHEMICAL** West Lafayette, Ind.	1,347.9	21.0	157.5	99	11.8	1,649.1	227	900.3	180
279	276	**TEKTRONIX** Wilsonville, Ore.[1]	1,330.9	(5.8)	48.3	226	—	899.6	317	428.4	281
280	186	**GREAT AMERICAN MGMT. & INVEST.** Chicago[1]	1,330.3	(45.4)	37.7	255	(20.8)	1,488.7	237	299.3	336
281	277	**WALTER INDUSTRIES** Tampa[1]	1,327.5	(6.0)	14.5	336	—	3,276.2	134	(253.3)	475
282	275	**ZENITH ELECTRONICS** Glenview, Ill.	1,321.6	(6.6)	(51.6)	419	—	686.9	366	308.8	331
283	270	**CRANE** New York	1,302.5	(9.5)	22.7	310	(63.9)	630.2	380	300.5	334
284	295	**E.W. SCRIPPS** Wilmington, Del.	1,299.6	0.2	64.6	200	34.5	1,708.4	223	674.1	221
285	281	**BOWATER** Darien, Conn.	1,290.5	(6.7)	45.6	235	(41.8)	2,780.0	156	942.6	172
286	307	**THIOKOL** Ogden, Utah	1,269.8	6.6	53.4	217	29.0	849.1	323	325.7	321
287	306	**GOLD KIST** Atlanta[1]	1,268.2	6.3	N.A.		—	671.8	370	296.9	338
288	291	**TRINITY INDUSTRIES** Dallas[1]	1,263.2	(3.6)	30.1	280	(21.2)	929.0	311	339.9	313
289	•	**BROOKE GROUP** New York[1]	1,255.9	30.9	N.A.		—	N.A.		N.A.	
290	315	**FEDERAL-MOGUL** Southfield, Mich.	1,251.7	9.9	(4.9)	373	(153.1)	884.2	319	256.2	355
291	317	**RAYCHEM** Menlo Park, Calif.	1,249.5	10.0	(23.4)	399	—	1,234.9	261	652.0	230
292	296	**AMOSKEAG** Boston	1,244.4	(2.5)	1.3	370	—	952.8	309	124.4	434
293	283	**FIGGIE INTERNATIONAL** Willoughby, Ohio	1,243.5	(8.7)	30.1	282	(24.2)	1,109.5	283	379.4	299
294	297	**POTLATCH** San Francisco	1,242.5	(2.1)	55.8	214	(43.4)	1,891.8	206	914.8	176
295	301	**DATA GENERAL** Westboro, Mass.[1]	1,237.0	1.1	85.6	161	—	944.0	310	494.4	254
296	334	**ADVANCED MICRO DEVICES** Sunnyvale, Calif.	1,226.6	14.0	145.3	106	—	1,291.8	254	783.4	197
297	299	**DWG** Miami Beach[1]	1,222.3	(1.3)	(16.9)	395	—	917.0	313	92.5	445
298	292	**HARTMARX** Chicago[1]	1,215.3	(7.2)	(38.4)	412	—	739.8	354	287.0	344
299	324	**HILLENBRAND INDUSTRIES** Batesville, Ind.[1]	1,209.4	9.3	89.2	157	17.9	1,532.2	235	490.8	255
300	340	**INTERGRAPH** Huntsville, Ala.	1,204.7	14.3	71.1	191	13.7	996.6	305	755.0	205

The definitions, explanations, and footnotes underlying the figures in this directory are on page 242.

MARKET VALUE 3/6/92	PROFITS AS % OF . . .				EARNINGS PER SHARE			TOTAL RETURN TO INVESTORS		Industry table number	RANK 1991
	SALES		ASSETS	COMMON STOCKHOLDERS' EQUITY		% change from 1990	1981-91 annual growth rate	1991	1981-91 annual rate		
$ millions Rank	% Rank		% Rank	% Rank	$ 1991		% Rank	% Rank	% Rank		
1,075.8 251	3.3 229		4.6 203	11.4 154	2.81	—	(4.0) 237	45.9 146	7.3 282	7	251
1,516.1 208	2.1 295		4.1 227	4.9 249	1.15	(45.5)	14.0 62	76.0 62	45.2 4	24	252
3,059.5 114	2.6 265		1.1 337	10.6 [illegible]	0.57	(89.1)	(13.0) 271	21.1 258	13.0 212	16	253
1,258.7 229	2.0 299		3.2 253	4.9 [illegible]	0.65	(67.8)	(4.0) 234	(6.2) 379	17.8 151	7	254
7.3 437	(11.0) 460		(15.4) 459	—	(7.03)	—	—	81.4 54	(15.2) 358	10	255
731.3 [illegible]	8.1 [illegible]		8.7 [illegible]	35.1 [illegible]	5.80	112.5	5.2 [illegible]	24.7 [illegible]	6.9 [illegible]	5	256
842.8 [illegible]	(3.2) 420		(2.7) 413	(6.0) [illegible]	(0.90)	(192.8)	—	(5.1) 374	—	4	257
1,643.1 [illegible]	1.2 [illegible]		0.4 [illegible]	1.1 [illegible]	0.08	(96.5)	—	(26.4) 414	—	16	258
2,928.1 [illegible]	1.8 [illegible]		1.6 [illegible]	3.4 [illegible]	0.46	(78.9)	8.4 [illegible]	66.2 [illegible]	18.9 [illegible]	22	259
3,158.3 [illegible]	(2.2) 409		(1.7) 399	(4.8) [illegible]	(0.42)	—	—	N.A.	—	7	260
N.A.	2.2 [illegible]		2.9 [illegible]	41.7 [illegible]	N.A.	—	—	—	—	7	261
542.5 [illegible]	(0.6) [illegible]		(0.5) [illegible]	(7.7) [illegible]	(0.31)	—	—	0.0 [illegible]	—	14	262
3,372.5 [illegible]	12.3 [illegible]		16.7 [illegible]	24.5 [illegible]	2.18	7.4	14.1 [illegible]	16.7 [illegible]	22.6 [illegible]	20	263
2,218.9 [illegible]	8.3 [illegible]		10.6 [illegible]	15.6 [illegible]	3.57	(33.1)	4.2 [illegible]	23.2 [illegible]	13.8 [illegible]	5	264
1,962.8 [illegible]	4.4 [illegible]		5.5 [illegible]	9.1 [illegible]	3.00	(14.3)	6.0 [illegible]	45.1 [illegible]	17.2 [illegible]	15	265
1,210.1 [illegible]	5.7 [illegible]		3.3 [illegible]	8.1 [illegible]	1.83	(33.2)	4.7 [illegible]	61.4 [illegible]	19.8 [illegible]	9	266
N.A.	(1.9) [illegible]		(2.2) [illegible]	(31.8) [illegible]	N.A.	—	—	—	—	8	267
1,522.2 [illegible]	5.8 [illegible]		6.6 [illegible]	12.6 [illegible]	2.61	16.0	10.4 [illegible]	25.1 [illegible]	17.8 [illegible]	20	268
2,211.3 [illegible]	5.7 [illegible]		7.8 [illegible]	20.8 [illegible]	0.98	18.1	12.1 [illegible]	108.1 [illegible]	30.2 [illegible]	8	269
915.6 [illegible]	2.2 [illegible]		4.0 [illegible]	7.1 [illegible]	1.37	(43.4)	28.7 [illegible]	63.4 [illegible]	21.2 [illegible]	17	270
2,792.3 [illegible]	5.1 [illegible]		4.8 [illegible]	7.7 [illegible]	5.96	(58.8)	9.9 [illegible]	0.2 [illegible]	21.5 [illegible]	20	271
N.A.	—		—	—	N.A.	—	—	—	—	6	272
269.2 [illegible]	2.2 [illegible]		2.2 [illegible]	6.9 [illegible]	1.74	0.0	11.1 [illegible]	29.0 [illegible]	13.0 [illegible]	11	273
765.0 [illegible]	4.2 [illegible]		6.5 [illegible]	13.2 [illegible]	2.95	—	—	14.8 [illegible]	9.9 [illegible]	7	274
N.A.	6.1 [illegible]		10.3 [illegible]	—	N.A.	—	—	—	—	1	275
441.9 [illegible]	1.5 [illegible]		1.3 [illegible]	5.9 [illegible]	2.31	(33.8)	44.1 [illegible]	59.3 [illegible]	20.8 [illegible]	18	276
2,426.5 [illegible]	10.2 [illegible]		10.4 [illegible]	24.6 [illegible]	1.82	6.7	6.0 [illegible]	51.3 [illegible]	17.1 [illegible]	5	277
3,688.0 [illegible]	11.7 [illegible]		9.5 [illegible]	17.5 [illegible]	2.23	11.2	21.7 [illegible]	80.6 [illegible]	29.5 [illegible]	5	278
497.2 [illegible]	3.6 [illegible]		5.4 [illegible]	11.3 [illegible]	1.66	—	(2.6) [illegible]	9.5 [illegible]	(1.1) [illegible]	22	279
299.1 [illegible]	2.8 253		2.5 285	12.6 [illegible]	3.40	(20.2)	27.9 [illegible]	(1.9) 361	13.4 208	11	280
N.A.	1.1 [illegible]		0.4 [illegible]	—	N.A.	—	—	—	—	15	281
273.2 [illegible]	(3.9) 430		(7.5) 444	(16.7) [illegible]	(1.79)	—	—	11.3 [illegible]	(3.9) [illegible]	7	282
807.7 [illegible]	1.7 [illegible]		3.6 [illegible]	7.5 [illegible]	0.72	(63.3)	(4.9) [illegible]	21.6 [illegible]	18.1 [illegible]	11	283
1,853.2 [illegible]	5.0 [illegible]		3.8 [illegible]	9.6 [illegible]	0.87	38.1	—	44.8 [illegible]	—	20	284
930.6 [illegible]	3.5 [illegible]		1.6 [illegible]	4.4 [illegible]	1.15	(43.9)	—	9.4 [illegible]	—	9	285
327.2 [illegible]	4.2 [illegible]		6.3 [illegible]	16.4 [illegible]	2.75	27.9	0.3 [illegible]	7.3 [illegible]	10.3 [illegible]	1	286
N.A.	—		—	—	N.A.	—	—	—	—	8	287
643.8 [illegible]	2.4 [illegible]		3.2 [illegible]	8.9 [illegible]	1.42	(31.1)	(7.1) [illegible]	49.1 [illegible]	8.1 [illegible]	27	288
144.3 [illegible]	—		—	—	N.A.	—	—	(28.8) [illegible]	—	28	289
369.4 [illegible]	(0.4) 376		(0.6) 378	(4.1) [illegible]	(0.36)	(280.0)	—	15.0 282	7.5 280	11	290
1,374.5 [illegible]	(1.9) [illegible]		(1.9) [illegible]	(3.6) [illegible]	(0.63)	—	—	73.1 [illegible]	7.2 [illegible]	7	291
60.9 [illegible]	0.1 [illegible]		0.1 [illegible]	1.0 [illegible]	0.38	—	—	41.7 [illegible]	—	24	292
381.9 [illegible]	2.4 [illegible]		2.7 [illegible]	7.9 [illegible]	1.72	(24.6)	(4.4) [illegible]	12.8 [illegible]	14.5 [illegible]	11	293
1,303.7 [illegible]	4.5 [illegible]		2.9 [illegible]	6.1 [illegible]	1.92	(43.7)	1.7 [illegible]	36.9 [illegible]	14.2 [illegible]	9	294
371.0 366	6.9 [illegible]		9.1 [illegible]	17.3 [illegible]	2.62	—	0.9 [illegible]	266.7 3	(4.8) 345	6	295
1,510.4 [illegible]	11.8 [illegible]		11.2 [illegible]	17.2 [illegible]	1.53	—	11.5 [illegible]	259.0 5	11.5 [illegible]	7	296
219.8 [illegible]	(1.4) 394		(1.8) [illegible]	(18.2) [illegible]	(0.65)	—	—	0.0 [illegible]	5.3 [illegible]	24	297
168.0 [illegible]	(3.2) 419		(5.2) 437	(13.4) [illegible]	(1.74)	—	—	(2.5) 364	2.2 [illegible]	2	298
2,826.7 [illegible]	7.4 [illegible]		5.8 [illegible]	18.2 [illegible]	1.22	19.0	13.0 [illegible]	87.8 [illegible]	29.5 [illegible]	14	299
882.4 274	5.9 113		7.1 119	9.4 [illegible]	1.47	14.8	22.9 [illegible]	29.1 217	11.0 [illegible]	6	300

CONTINUED

THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK 1991	1990		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
301	313	GERBER PRODUCTS Fremont, Mich.	1,203.2	4.6	112.8	132	19.9	827.3	327	394.6	249
302	302	SAVANNAH FOODS & INDUSTRIES Savannah	1,203.0	(1.2)	38.3	282	(21.3)	581.8	397	224.3	329
303	265	CLARK EQUIPMENT South Bend, Ind.	1,201.0	(18.0)	(337.5)	488	(659.7)	1,119.9	254	237.5	324
304	286	TECUMSEH PRODUCTS Tecumseh, Mich.	1,198.4	(10.6)	42.5	248	199.3	1,055.4	268	712.8	178
305	344	DRESSER-RAND Corning, N.Y.†	1,192.4	17.0	N.A.		—	558.4	405	266.4	300
306	310	PENTAIR St. Paul	1,170.1	(0.7)	41.1	240	24.5	790.6	337	349.8	205
307	•	ANCHOR GLASS CONTAINER Tampa	1,166.5	1.2	21.7	313	6.3	1,347.1	231	460.1	147
308	319	WM. WRIGLEY JR. Chicago	1,159.8	3.2	128.7	114	9.6	625.1	384	463.4	144
309	320	M.A. HANNA Cleveland	1,150.2	2.7	1.9	448	(96.6)	1,032.5	276	380.5	215
310	318	BEMIS Minneapolis	1,141.6	1.0	53.0	220	4.2	714.9	360	329.2	219
311	309	FORT HOWARD Green Bay, Wis.	1,138.2	(3.7)	(110.6)	476	—	N.A.		N.A.	
312	339	MAGNETEK Los Angeles	1,134.3	7.5	34.6	261	4.3	784.7	339	158.7	412
313	322	IMC FERTILIZER GROUP Northbrook, Ill.	1,133.3	2.0	95.8	146	16.0	1,739.3	210	698.6	183
314	308	SCI SYSTEMS Huntsville, Ala.	1,128.9	(4.7)	12.6	361	446.8	550.9	407	185.9	391
315	342	BROWN-FORMAN Louisville, Ky.†	1,126.0	10.0	145.2	97	57.0	1,082.6	265	660.6	228
316	335	NEWELL Freeport, Ill.	1,118.9	4.3	112.2	133	10.7	1,039.6	275	606.4	176
317	326	INTERSTATE BAKERIES Kansas City, Mo.	1,106.7	0.2	(8.0)	431	—	584.8	395	(49.9)	448
318	345	TESORO PETROLEUM San Antonio	1,089.2	8.2	3.9	368	(82.6)	500.4	420	137.4	424
319	338	LSS HOLDINGS Southfield, Mich.	1,085.3	1.6	(33.2)	427	—	726.4	358	6.1	454
320	330	LEGGETT & PLATT Carthage, Mo.	1,081.8	(0.6)	39.4	251	33.9	656.1	379	332.6	216
321	331	FIRST BRANDS Danbury, Conn.	1,073.0	(1.2)	46.2	232	(6.8)	815.6	323	234.9	326
322	378	SMITHFIELD FOODS Smithfield, Va.	1,071.8	25.6	28.7	288	305.9	200.8	448	71.1	440
323	290	UNION TEXAS PETROLEUM HOLDINGS Houston	1,069.3	(19.8)	332.8**	16	186.9	2,246.6	136	674.4	180
324	316	FERRO Cleveland	1,065.6	(6.3)	4.8	363	(75.2)	671.9	369	305.3	233
325	272	INSPIRATION RESOURCES Sioux City, Iowa	1,061.7	(25.4)	(151.7)	445	—	499.3	421	190.3	393
326	328	DOMINO SUGAR New York†	1,057.6	(3.2)	N.A.		—	559.4	404	N.A.	
327	305	CYCLOPS INDUSTRIES Pittsburgh	1,056.5	(11.9)	(41.2)	468	—	458.6	432	30.3	482
328	298	ALLIANT TECHSYSTEMS Minneapolis	1,047.1	(16.1)	33.2	267	36.1	506.4	417	167.1	401
329	353	STANDARD COMMERCIAL Wilson, N.C.	1,046.2†	10.7	(9.6)	387	—	582.0	396	117.0	434
330	304	WEIRTON STEEL Weirton, W.Va.	1,039.5	(13.4)	(74.7)	427	(23,895.0)	1,038.0	299	288.4	343
331	382	MEDTRONIC Minneapolis	1,031.1	22.5	133.4	113	22.7	1,024.1	277	683.2	179
332	343	IMO INDUSTRIES Lawrenceville, N.J.	1,024.0	0.2	11.4	349	(46.1)	1,045.8	269	336.9	214
333	350	INTL. FLAVORS & FRAGRANCES New York	1,017.0	5.6	168.7	84	7.7	1,217.4	253	960.1	81
334	403	DIBRELL BROTHERS Danville, Va.	1,012.1	31.7	21.2	314	76.0	539.3	411	97.3	444
335	312	VALERO ENERGY San Antonio	1,011.8	(13.4)	98.7	141	4.2	1,480.9	239	686.5	182
336	325	VULCAN MATERIALS Birmingham, Ala.	1,009.0	(8.7)	52.6	223	(56.3)	1,073.1	267	682.9	184
337	332	ALLEGHENY LUDLUM Pittsburgh	1,004.6	(7.4)	41.1	241	(40.4)	764.5	346	364.5	202
338	364	COOPER TIRE & RUBBER Findlay, Ohio	1,001.6	11.7	79.4	170	19.5	670.6	371	439.6	150
339	336	WESTERN DIGITAL Irvine, Calif.	986.2	(7.9)	(134.2)	481	(655.2)	620.4	385	185.1	392
340	352	PITTWAY Chicago	983.9	3.9	25.5	300	6.0	758.6	348	399.6	247
341	314	OUTBOARD MARINE Waukegan, Ill.	983.6	(14.1)	(84.3)	482	—	957.0	308	463.3	143
342	333	HOLNAM Dundee, Mich.†	979.3	(9.2)	(95.1)	474	—	1,456.6	213	481.2	134
343	323	ITT RAYONIER Stamford, Conn.†	978.9	(11.6)	44.3	236	(32.7)	1,366.5	229	769.9	169
344	327	WHEELING-PITTSBURGH STEEL Wheeling	966.0	(12.4)	4.7	364	—	1,173.7	274	263.5	305
345	346	BRIGGS & STRATTON Wauwatosa, Wis.	951.6	(5.2)	36.5	259	3.0	556.8	406	284.7	280
346	361	OCEAN SPRAY Lakeville-Middleboro, Mass.	946.0	3.4	N.A.		—	548.0	409	211.1	348
347	360	DEXTER Windsor Locks, Conn.	944.5	2.6	(7.1)	426	(116.9)	784.5	340	313.8	228
348	376	HARLEY-DAVIDSON Milwaukee	939.9	8.5	37.0	257	(2.3)	474.2	422	238.0	320
349	359	MARK IV INDUSTRIES Amherst, N.Y.	937.3	1.9	25.6	298	(64.2)	1,077.2	263	177.8	400
350	337	NORTEK Providence	925.8	(13.3)	(27.1)**	403	—	N.A.		N.A.	

The definitions, explanations, and footnotes underlying the figures in this directory are on page 242.

301-350

MARKET VALUE 3/6/92		PROFITS AS % OF . . .						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				Industry table number	RANK 1991
		SALES		ASSETS		COMMON STOCKHOLDERS' EQUITY			% change from 1990	1981-91 annual growth rate		1991		1981-91 annual rate			
$ millions	Rank	%	Rank	%	Rank	%	Rank	$ 1991		%	Rank	%	Rank	%	Rank		
2,576.5	138	9.4	49	13.6	27	28.6	30	3.00	20.5	14.6	51	42.0	165	32.7	25	8	301
527.8	327	3.2	237	6.6	132	17.1	100	1.43	(20.6)	5.0	168	(31.4)	418	26.7	66	8	302
432.8	357	(28.1)	473	(30.1)	468	(142.1)	418	(19.52)	(657.7)	—		(8.2)	383	0.7	330	11	303
711.1	298	3.5	213	4.0	223	6.0	278	7.77	200.0	(3.2)	222	33.6	198	9.5	263	11	304
N.A.		—		—		—		N.A.	—	—		—		—		11	305
471.9	341	3.5	218	5.2	184	12.6	162	3.30	30.4	10.7	103	67.0	80	21.8	105	11	306
N.A.		1.9	301	1.6	319	—		N.A.	—	—		—		—		4	307
2,824.3	127	11.1	33	20.6	7	27.8	32	3.28	9.7	18.5	29	61.5	97	35.0	16	8	308
587.9	315	0.2	365	0.2	366	0.2	347	0.04	(98.0)	(35.7)	289	6.8	331	2.5	324	21	309
1,138.1	241	4.6	161	7.4	114	16.1	112	2.06	4.0	13.4	72	41.6	168	33.5	21	9	310
N.A.		(9.7)	457	—		—		N.A.	—	—		—		—		9	311
300.9	379	3.1	244	4.4	208	21.8	55	1.47	5.0	—		39.8	14	—		7	312
1,345.2	226	8.5	64	5.5	167	13.7	144	3.85	23.0	—		66.3	83	—		5	313
189.0	402	1.1	339	2.3	293	6.8	264	0.60	445.5	11.1	98	(21.2)	405	3.2	319	6	314
2,063.2	165	12.9	23	13.4	30	22.3	52	5.21	58.4	16.4	37	21.6	254	16.2	172	3	315
3,471.6	105	10.0	43	10.8	53	18.5	86	1.81	8.4	17.0	35	87.9	43	42.3	5	14	316
350.3	371	(0.7)	383	(1.4)	395	—		(1.70)	—	—		N.A.		—		8	317
73.9	425	0.4	361	0.8	349	(6.7)	372	(0.37)	(138.5)	—		(32.1)	419	(12.6)	361	18	318
N.A.		(3.1)	418	(4.6)	429	(543.3)	421	N.A.	—	—		—		—		10	319
758.9	291	3.6	208	6.0	153	11.8	174	2.22	32.9	7.8	134	47.6	136	20.6	115	10	320
577.1	316	4.3	175	5.7	162	19.7	71	2.13	(9.7)	—		27.8	223	—		9	321
268.2	390	2.7	259	14.3	23	40.3	7	1.99	318.9	42.9	4	69.6	76	37.0	13	8	322
1,510.3	21	31.1	2	14.8	21	46.9	4	3.11**	284.0	—		35.4	92	—		16	323
781.8	287	0.5	366	0.7	352	0.5	349	0.08	(90.4)	(23.1)	284	116.1	25	18.9	138	5	324
327.5	375	(14.3)	464	(30.4)	469	(79.7)	414	(2.33)	—	—		34.5	195	—		5	325
N.A.		—		—		—		N.A.	—	—		—		—		8	326
156.8	408	(3.9)	429	(9.0)	448	(136.0)	417	(5.79)	—	—		71.1	71	—		15	327
211.6	397	3.2	238	6.6	134	19.9	64	3.33	30.6	—		66.0	85	—		1	328
225.8	395	(0.9)	388	(1.7)	398	(8.2)	377	(1.17)	—	—		190.2	2	22.7	93	25	329
111.1	421	(7.2)	447	(7.2)	443	(29.0)	399	(3.49)	(35,000.0)	—		(48.1)	426	—		15	330
4,684.9	68	12.9	22	13.0	28	19.5	70	4.50	11.7	12.8	81	119.6	24	27.5	57	22	331
187.6	404	1.1	340	1.1	344	3.4	312	0.68	(43.3)	—		0.3	347	—		11	332
3,959.7	92	16.6	11	13.9	26	17.6	91	4.41	7.3	9.3	122	42.0	166	22.3	98	23	333
466.2	342	2.1	293	3.9	229	21.8	56	1.60	75.8	18.3	31	234.9	6	40.9	8	25	334
1,219.5	233	9.8	45	6.7	130	13.5	149	2.28	(1.3)	(5.3)	242	96.1	38	3.7	316	18	335
1,447.7	211	5.2	146	4.9	194	7.7	253	1.38	(55.5)	(2.0)	209	9.4	315	14.0	199	16	336
1,102.7	246	4.1	185	5.4	176	11.3	186	1.25	(39.6)	—		21.5	256	—		15	337
2,115.5	161	7.9	86	11.8	43	18.1	86	1.92	19.3	14.1	61	200.2	10	42.0	7	21	338
116.8	418	(13.6)	463	(21.6)	466	(72.5)	413	(4.59)	(659.8)	—		(46.2)	425	(8.8)	349	7	339
497.7	336	2.6	262	3.4	244	6.4	272	1.85	6.3	—		46.1	144	—		7	340
459.9	344	(8.6)	432	(8.8)	447	(18.2)	390	(4.34)	—	—		33.7	190	8.8	266	27	341
623.7	309	(9.7)	456	(6.5)	441	(19.8)	392	(0.71)	—	—		54.2	114	—		4	342
N.A.		4.5	166	3.2	260	5.8	281	N.A.	—	—		—		—		9	343
141.1	412	0.5	359	0.4	367	1.8	331	0.27	—	—		N.A.		—		15	344
737.6	293	3.8	198	6.5	135	12.8	168	2.52	2.9	3.8	175	77.0	57	12.1	224	11	345
N.A.		—		—		—		N.A.	—	—		—		—		8	346
543.3	322	(0.8)	384	(0.9)	386	(2.3)	353	(0.29)	(116.7)	—		7.4	326	11.9	227	5	347
1,020.7	255	3.9	193	7.8	105	15.5	127	2.08	(1.9)	—		132.5	18	—		27	348
554.4	321	2.7	258	2.4	290	14.4	135	1.76	(60.2)	76.5	1	119.1	23	58.9	1	7	349
57.2	433	(2.9)	417	—		—		(2.01)**	—	—		(34.3)	423	(11.4)	353	11	350

CONTINUED

THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK 1991	1990		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
351	356	**GAF** Wayne, N.J.	925.6	(0.7)	210.4	79	—	1,865.7	211	159.1	410
352	348	**A.O. SMITH** Milwaukee	921.4	(6.3)	5.0	362	(83.4)	754.3	349	287.0	345
353	386	**NERCO** Portland, Ore.[4]	919.6	10.8	83.1	165	3.7	1,973.5	199	829.4	188
354	365	**ALLERGAN** Irvine, Calif.	906.8	1.8	(59.5)	420	(173.1)	833.6	326	444.9	272
355	409	**HELENE CURTIS INDUSTRIES** Chicago[23]	891.9	21.2	1.7	369	(90.0)	466.7	434	148.7	418
356	368	**SUNBEAM/OSTER** Providence[47]	885.6	0.6	48.1	228	(58.6)	777.6	343	360.1	306
357	347	**ESSEX GROUP** Fort Wayne	885.5	(10.9)	13.0	340	(57.2)	413.6	452	120.4	436
358	375	**HERMAN MILLER** Zeeland, Mich.	884.3	1.7	14.1	337	(69.8)	492.9	423	314.8	327
359	354	**SNAP-ON TOOLS** Kenosha, Wis.	882.8	(5.6)	34.3	264	(66.0)	915.4	315	652.7	229
360	349	**CONSOLIDATED PAPERS** Wisconsin Rapids, Wis.	882.4	(8.7)	91.4	153	(35.8)	1,410.7	245	960.1	166
361	380	**PERKIN-ELMER** Norwalk, Conn.[13]	880.4	4.0	(15.6)	392	(135.2)	751.9	350	261.5	352
362	404	**UST** Greenwich, Conn.	879.5	16.4	265.9	71	19.1	656.5	376	482.9	257
363	•	**QUANTUM** Milpitas, Calif.[24]	877.7	96.7	73.9	185	56.5	489.4	424	238.3	367
364	400	**C.R. BARD** Murray Hill, N.J.	876.0	11.5	57.2	211	41.9	657.6	375	365.7	302
365	•	**MAXTOR** San Jose, Calif.[29]	875.3	74.8	(45.4)	414	(339.8)	453.9	438	139.6	423
366	351	**WORTHINGTON INDUSTRIES** Columbus, Ohio[1]	874.9	(8.1)	44.6	239	(16.2)	563.8	402	355.0	307
367	396	**ALBERTO-CULVER** Melrose Park, Ill.[5]	873.7	9.8	30.1	279	(14.0)	574.4	399	249.4	339
368	435	**NATL. COOP. REFINERY ASSN.** McPherson, Kans.[34]	869.5	28.8	N.A.		—	401.3	453	241.5	365
369	379	**AG PROCESSING** Omaha[23,24]	866.1	1.9	N.A.		—	258.5	483	173.5	404
370	389	**CRAY RESEARCH** Eagan, Minn.	862.5	4.7	113.0	130	0.0	1,079.0	286	758.7	203
371	369	**AM INTERNATIONAL** Chicago[7]	860.0	(2.1)	8.8	353	—	600.5	388	182.5	399
372	399	**JOSTENS** Minneapolis[1]	859.9	9.2	64.2	201	6.6	530.2	413	296.2	339
373	390	**BECKMAN INSTRUMENTS** Fullerton, Calif.	857.9	4.2	38.1	253	5.2	712.2	361	343.0	311
374	397	**H.B. FULLER** St. Paul[4]	855.3	8.0	27.7	292	30.9	508.9	416	219.0	380
375	393	**LINCOLN ELECTRIC** Cleveland	843.7	4.0	N.A.		—	N.A.		N.A.	
376	•	**UNITED STATES SURGICAL** Norwalk, Conn.	843.6	64.1	91.2	154	98.0	741.6	353	329.9	317
377	•	**NL INDUSTRIES** Houston	841.5	(13.7)	(16.5)	394	(117.8)	1,831.0	215	(58.3)	467
378	383	**CHESAPEAKE** Richmond	840.5	(0.1)	15.4	335	(7.8)	915.5	314	318.4	326
379	355	**GEORGIA GULF** Atlanta	838.3	(10.3)	61.5	205	(35.5)	415.6	450	(357.5)	477
380	384	**DANAHER** Washington, D.C.	837.4	(0.3)	13.3	339	(62.7)	735.0	356	319.3	325
381	377	**LESLIE FAY** New York	836.6	(2.6)	29.4	285	1.1	395.8	457	215.8	381
382	385	**UNIVERSAL FOODS** Milwaukee[5]	834.3	(0.5)	57.8	208	16.9	653.2	378	292.0	342
383	395	**UCC INVESTORS HOLDING** Middlebury, Conn.[6]	832.3	2.9	(31.7)	406	—	1,144.5	278	(64.6)	448
384	381	**FLOWERS INDUSTRIES** Thomasville, Ga.	831.2	(1.5)	24.0	303	(17.9)	434.9	442	206.3	385
385	415	**THERMO ELECTRON** Waltham, Mass.	830.1	14.8	47.1	230	38.9	1,199.5	266	480.9	259
386	370	**CRYSTAL BRANDS** Southport, Conn.	826.9	(5.6)	(71.4)	425	(347.1)	659.4	374	193.5	392
387	366	**LOUISIANA LAND & EXPLORATION** New Orleans	825.3	(6.7)	20.9	318	(61.9)	1,252.8	256	446.5	277
388	413	**TRI VALLEY GROWERS** San Francisco[23,24]	824.7	13.0	N.A.		—	660.2	373	172.7	405
389	358	**DOSKOCIL** Hutchinson, Kans.	820.2	(11.4)	69.3	193	—	311.9	479	88.1	446
390	437	**THORN APPLE VALLEY** Southfield, Mich.[1]	818.0	22.1	19.6	325	—	121.4	489	42.1	458
391	367	**AMSTED INDUSTRIES** Chicago[5]	817.2	(7.4)	17.8	328	(23.6)	501.2	419	219.3	378
392	373	**QUAKER STATE** Oil City, Pa.	813.6	(6.9)	22.7	309	16.1	751.5	351	307.8	330
393	402	**KELLWOOD** St. Louis[5]	811.5	4.1	12.4	342	(11.3)	484.3	427	200.2	390
394	411	**PHILLIPS-VAN HEUSEN** New York[5]	807.8	10.0	26.4	296	9.1	376.8	463	135.1	420
395	387	**WELLMAN** Shrewsbury, N.J.	805.7	(2.7)	45.3	236	(26.4)	864.9	321	435.4	279
396	421	**RUSSELL** Alexander City, Ala.[4]	804.6	12.7	56.8	212	(16.3)	818.2	329	508.1	249
397	341	**TEREX** Green Bay, Wis.	803.2	(22.5)	(33.4)	408	(315.8)	597.5	391	69.4	451
398	363	**CF INDUSTRIES** Long Grove, Ill.[24]	803.1	(11.1)	N.A.		—	837.4	325	503.7	250
399	405	**AVONDALE INDUSTRIES** Avondale, La.	800.0	6.0	N.A.		—	N.A.		N.A.	
400	•	**DU PONT MERCK PHARMACEUTICAL** Wilmington, Del.	795.4	—	N.A.		—	1,059.2	294	N.A.	

The definitions, explanations, and footnotes underlying the figures in this directory are on page 242

MARKET VALUE 3/6/92		PROFITS AS % OF . . .						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				Industry table number	RANK 1991
		SALES		ASSETS		COMMON STOCK-HOLDERS' EQUITY				1981-91 annual growth rate		1991		1981-91 annual rate			
$ millions	Rank	%	Rank	%	Rank	%	Rank	$ 1991	% change from 1990	%	Rank	%	Rank	%	Rank		
N.A.		22.7	6	11.3	49	—		N.A.	—	—		—		—		5	351
188.1	403	0.5	358	0.7	353	0.7	341	0.20	(94.1)	(12.3)	270	27.5	224	11.6	234	17	352
563.5	318	9.0	53	4.2	216	10.0	215	2.12	3.4	—		(9.9)	389	—		16	353
1,643.0	195	(6.6)	444	(7.1)	442	(13.4)	386	(0.89)	(173.6)	—		42.1	164	—		19	354
359.6	369	0.2	364	0.4	363	1.1	337	0.18	(90.1)	(11.1)	268	57.1	109	30.2	33	23	355
N.A.		5.4	132	6.2	149	—		N.A.	—	—		—		—		7	356
N.A.		1.5	321	3.1	254	10.8	197	N.A.	—	—		—		—		15	357
496.3	338	1.6	313	2.9	269	4.5	300	0.55	(69.8)	(7.9)	258	7.6	324	10.9	247	10	358
1,635.7	196	3.9	195	3.7	235	5.3	285	0.82	(66.5)	(1.9)	207	5.6	334	15.1	185	14	359
1,726.2	183	10.4	40	6.5	137	9.5	222	2.10	(35.8)	5.2	162	(0.7)	357	23.3	88	9	360
1,130.7	243	(1.8)	398	(2.1)	405	(6.0)	368	(0.47)	(142.7)	—		45.9	147	3.6	317	22	361
5,742.3	72	30.2	3	40.5	1	55.1	5	1.18	20.4	19.6	24	84.5	49	38.1	10	25	362
698.6	299	8.4	68	15.1	19	31.0	26	1.69	48.2	—		(8.4)	384	—		6	363
1,411.6	222	6.5	97	8.7	84	15.6	118	1.08	42.1	10.9	101	83.6	51	21.7	106	22	364
252.6	391	(5.2)	440	(10.0)	452	(32.5)	403	(1.89)	(310.0)	—		5.1	336	—		6	365
1,360.8	225	5.1	149	7.9	100	12.6	165	1.13	(15.0)	6.2	153	57.1	110	19.7	127	15	366
711.4	297	3.4	219	5.2	182	12.1	172	1.06	(18.5)	15.1	44	9.2	319	29.6	37	23	367
N.A.		—		—		—		N.A.	—	—		—		—		18	368
N.A.		—		—		—		N.A.	—	—		—		—		8	369
1,086.9	248	13.1	21	10.5	57	14.9	127	4.15	3.2	20.2	21	29.2	215	8.6	268	6	370
70.2	429	1.0	343	1.5	327	1.0	338	0.04	—	—		(25.0)	413	(13.8)	356	11	371
1,426.5	219	7.5	79	12.1	41	21.7	57	1.58	4.6	9.7	115	8.3	321	23.4	86	12	372
617.7	313	4.4	170	5.3	177	11.1	191	1.32	4.8	—		23.6	241	—		22	373
565.7	317	3.2	234	5.4	172	12.6	160	3.00	30.4	7.3	142	103.6	34	19.7	126	5	374
N.A.		—		—		—		N.A.	—	—		—		—		11	375
5,382.8	76	10.8	37	12.3	39	27.6	33	1.58	78.5	18.8	27	212.3	7	37.3	11	22	376
413.5	356	(2.0)	404	(0.9)	385	—		(0.27)**	(119.3)	—		4.8	338	(14.9)	367	5	377
512.4	332	1.8	303	1.7	315	4.8	292	0.75	(7.4)	(6.1)	246	82.1	52	13.8	203	9	378
864.8	276	7.3	83	14.8	22	—		1.75	(43.0)	—		117.6	27	—		5	379
635.7	307	1.6	312	1.8	311	4.2	307	0.47	(64.9)	—		26.6	230	27.7	63	14	380
362.3	368	3.5	217	7.4	113	13.6	145	1.55	1.3	—		46.5	142	—		2	381
856.4	280	6.9	89	8.8	82	19.8	66	2.18	11.8	14.2	56	26.7	228	28.6	45	8	382
N.A.		(3.8)	428	(2.8)	414			N.A.	—	—		—		—		5	383
530.2	326	2.9	252	5.5	165	11.7	180	0.71	(15.5)	4.7	172	23.6	242	19.2	133	8	384
1,091.4	247	5.7	123	3.9	230	9.8	220	1.97	19.4	13.3	73	61.5	98	22.2	101	22	385
116.2	419	(8.6)	453	(10.8)	454	(36.9)	406	(7.84)	(346.5)	—		(35.0)	424	—		2	386
785.0	285	2.5	267	1.7	316	4.7	295	0.74	(61.9)	(15.1)	276	(23.4)	410	6.2	296	16	387
N.A.		—		—		—		N.A.	—	—		—		—		8	388
101.3	423	8.5	66	22.2	5	78.7	3	11.97	—	—		N.A.		—		8	389
120.1	417	2.4	278	16.2	13	46.5	12	4.43	—	—		384.6	1	21.9	103	8	390
N.A.		2.2	287	3.6	242	—		1.81	(22.6)	(9.1)	262	N.A.		—		15	391
380.0	364	2.8	254	3.0	259	7.4	257	0.84	16.7	(4.0)	230	29.1	216	5.5	307	18	392
345.2	372	1.5	316	2.6	284	6.2	275	1.06	(11.7)	12.0	88	130.7	20	27.8	62	2	393
439.9	350	3.3	231	7.0	123	29.2	28	1.91	14.4	14.2	57	132.0	19	29.0	42	2	394
923.2	268	5.6	126	5.2	183	10.4	205	1.39	(26.8)	—		26.5	231	—		5	395
1,496.0	212	7.1	87	6.9	125	11.2	189	1.38	(16.4)	8.0	132	58.6	105	23.4	85	2	396
172.5	406	(4.2)	433	(5.6)	438	(48.1)	408	(3.37)	(314.6)	—		41.2	169	—		11	397
N.A.		—		—		—		N.A.	—	—		—		—		5	398
43.3	434	—		—		—		N.A.	—	—		(29.8)	417	—		27	399
N.A.		—		—		—		N.A.	—	—		—		—		19	400

CONTINUED

THE FORTUNE 500

LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK 1991	1990		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
401	429	**MAXUS ENERGY** Dallas	793.2	14.9	(11.2)	384	(253.4)	1,451.5	243	(55.9)	466
402	443	**MITCHELL ENERGY** The Woodlands, Texas	791.3	20.2	47.3	229	54.9	2,216.2	182	610.9	234
403	374	**CINCINNATI MILACRON** Cincinnati	787.9	(9.8)	(100.2)	435	—	598.4	390	129.1	432
404	414	**PILGRIM'S PRIDE** Pittsburg, Texas	787.6	8.8	12.3	344	(21.4)	428.1	445	112.4	439
405	394	**GITANO GROUP** New York	780.4	(3.6)	(62.5)	422	(877.2)	487.0	425	136.9	427
406	388	**KAMAN** Bloomfield, Conn.	780.4	(5.6)	17.0	330	(11.7)	421.9	447	202.1	387
407	412	**HUBBELL** Orange, Conn.	768.5	4.7	90.6	185	5.3	685.3	367	518.9	248
408	228	**KALHI** Dallas	765.7	(57.7)	24.8**	302	(66.8)	1,177.1	272	385.5	296
409	440	**HUDSON FOODS** Rogers, Ark.	765.3	14.8	8.5	354	(2.4)	350.3	472	133.5	431
410	391	**JPS TEXTILE GROUP** Greenville, S.C.	761.0	(7.4)	(8.6)**	379	—	567.2	401	(73.1)	469
411	408	**MEREDITH** Des Moines	759.3	3.2	83.1	164	—	594.3	393	342.7	312
412	422	**MILLIPORE** Bedford, Mass.	748.0	5.4	60.4	206	117.2	783.7	341	478.2	261
413	428	**EXIDE** Reading, Pa.	742.7	7.0	(12.3)	386	—	595.1	392	(10.6)	460
414	433	**A. SCHULMAN** Akron	740.1	8.7	42.3	244	17.3	344.3	473	232.6	371
415	401	**MAGMA COPPER** Tucson, Ariz.	724.8	(7.4)	(120.5)	437	(242.8)	1,015.9	303	409.1	288
416	418	**GAYLORD CONTAINER** Deerfield, Ill.	723.8	0.8	(180.3)	450	—	965.7	307	(23.0)	462
417	416	**IMPERIAL HOLLY** Sugar Land, Texas	717.6	(0.4)	21.0	317	16.5	363.7	467	136.7	428
418	468	**MOLEX** Lisle, Ill.	715.7	19.0	64.6	198	4.1	709.7	362	550.7	244
419	436	**AMETEK** Paoli, Pa.	715.1	6.5	38.0	254	1.7	612.5	386	211.5	383
420	392	**INTERLAKE** Lisle, Ill.	714.7	(12.9)	(13.7)	389	—	478.1	428	(239.5)	473
421	410	**COMMERCE CLEARING HOUSE** Riverwoods, Ill.	713.6	(2.9)	31.0	274	(23.7)	626.5	383	219.4	377
422	438	**LSI LOGIC** Milpitas, Calif.	712.6	6.7	8.3	365	—	748.5	352	293.1	341
423	406	**TORO** Bloomington, Minn.	711.6	(5.2)	9.7	360	(41.4)	415.3	451	160.6	409
424	434	**STANHOME** Westfield, Mass.	710.2	5.1	45.1	237	(11.8)	419.3	449	241.1	366
425	466	**BAROID** Houston	708.1	17.3	1.1**	371	(97.4)	626.9	382	256.6	354
426	417	**VISTA CHEMICAL** Houston	705.4	(2.1)	19.6	324	(69.0)	730.4	357	177.8	402
427	•	**AMGEN** Thousand Oaks, Calif.	705.0	126.9	97.9	142	2,431.7	865.5	320	531.1	246
428	224	**HENLEY GROUP** Hampton, N.H.	704.0	(62.4)	(661.0)	464	—	1,660.0	226	443.0	273
429	432	**CONE MILLS** Greensboro, N.C.	700.0	2.4	N.A.		—	N.A.		N.A.	
430	476	**SAFETY-KLEEN** Elgin, Ill.	696.9	17.7	51.6	224	(6.6)	903.8	316	463.6	263
431	•	**AST RESEARCH** Irvine, Calif.	696.7	29.3	64.7	196	84.6	485.4	426	282.2	337
432	419	**STANDARD REGISTER** Dayton	693.7	(3.2)	32.7	271	50.1	463.6	439	329.3	318
433	445	**INSILCO** Midland, Texas	685.7	4.9	(14.8)	391	—	589.9	394	(430.9)	478
434	427	**NEWMONT MINING** Denver	683.5	(2.4)	94.3	130	(72.5)	818.1	330	201.4	389
435	•	**HUFFY** Miamisburg, Ohio	678.9	31.4	19.8	323	10.1	316.6	478	125.0	433
436	442	**SILGAN** Stamford, Conn.	678.6	3.1	9.3	351	216.9	382.3	462	46.6	468
437	454	**NCH** Irving, Texas	677.7	7.8	43.1	241	8.3	438.2	441	248.0	361
438	423	**SPX** Muskegon, Mich.	673.5	(4.9)	(19.4)	396	(209.6)	579.3	398	189.2	395
439	•	**BLOUNT** Montgomery, Ala.	672.7	—	2.2**	367	—	496.3	422	155.4	413
440	467	**BETZ LABORATORIES** Trevose, Pa.	670.6	11.4	75.5	181	15.4	475.8	431	258.9	353
441	490	**JOY TECHNOLOGIES** Pittsburgh	667.5	18.7	24.0	304	—	603.1	387	(46.8)	464
442	450	**TAMBRANDS** White Plains, N.Y.	666.0	4.2	79.0	176	(19.2)	390.3	460	222.9	376
443	481	**PALL** East Hills, N.Y.	663.1	15.2	79.9	173	20.7	774.5	344	488.0	256
444	444	**TEXAS INDUSTRIES** Dallas	654.7	(0.3)	22.1	312	—	788.6	338	282.1	348
445	480	**ROBERTSON-CECO** Pittsburgh	651.5	12.0	(124.8)	439	—	N.A.		N.A.	
446	465	**STEWART & STEVENSON SERVICES** Houston	645.8	6.8	29.4	286	7.8	394.1	458	182.0	400
447	430	**LONGVIEW FIBRE** Longview, Wash.	645.3	(5.9)	16.6	332	(72.8)	926.9	312	377.0	300
448	482	**APPLIED MATERIALS** Santa Clara, Calif.	643.6	12.5	26.2	297	(23.0)	660.8	372	325.5	327
449	485	**CARTER-WALLACE** New York	642.7	13.1	51.8	223	2.9	562.4	403	382.6	297
450	448	**RICELAND FOODS** Stuttgart, Ark.	640.6	3.8	N.A.		—	241.4	485	139.0	424

The definitions, explanations, and footnotes underlying the figures in this directory are on page 242.

MARKET VALUE 3/6/92		PROFITS AS % OF ...						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				Industry table number	RANK 1991
		SALES		ASSETS		COMMON STOCKHOLDERS' EQUITY			% change from 1990	1981-91 annual growth rate		1991		1981-91 annual rate			
$ millions	Rank	%	Rank	%	Rank	%	Rank	$ 1991		%	Rank	%	Rank	%	Rank		
782.8	286	(1.4)	396	(0.8)	383	—		(0.52)	—	—		(18.3)	403	(5.1)	346	16	401
690.7	300	6.0	109	2.1	301	7.7	252	1.01	55.4	(7.1)	254	(12.3)	398	(1.0)	336	16	402
441.1	348	(12.7)	462	(16.7)	461	(81.6)	415	(3.67)	—	—		12.2	303	(4.3)	344	11	403
146.8	410	1.6	314	2.9	267	10.9	193	0.54	(21.7)	—		19.2	263	—		8	404
300.0	380	(8.0)	448	(12.8)	458	(45.7)	407	(3.90)	(822.2)	—		45.5	149	—		2	405
184.9	405	2.2	288	4.0	224	8.4	240	0.93	(12.3)	5.4	160	6.8	330	11.2	240	1	406
1,682.7	186	11.8	29	13.2	32	17.5	94	2.87	4.6	9.5	129	37.9	184	23.8	82	7	407
683.2	301	3.2	235	2.1	302	6.4	269	0.22**	(66.7)	—		15.8	281	8.3	272	5	408
106.3	422	1.1	341	2.4	288	6.4	273	0.58	(3.3)	—		11.2	307	—		8	409
N.A.		(1.1)	391	(1.5)	397	—		N.A.	—	—		—		—		24	410
422.9	354	10.9	36	14.0	24	24.3	46	4.94	—	14.7	48	17.6	269	12.1	223	20	411
992.4	260	8.1	72	7.7	108	12.6	161	2.17	117.0	18.6	28	3.7	340	16.0	175	22	412
N.A.		(1.7)	397	(2.1)	406	—		N.A.	—	—		—		—		7	413
1,002.1	259	5.7	121	12.3	38	18.3	84	2.15	20.1	29.6	12	38.4	180	37.2	12	21	414
289.1	383	(16.6)	466	(11.9)	455	(32.1)	402	(4.22)	(259.2)	—		27.0	226	—		15	415
59.9	431	(24.9)	471	(18.7)	465	—		(11.68)	—	—		(3.8)	367	—		9	416
133.6	413	2.9	249	5.8	159	15.3	123	2.07	10.7	—		(12.1)	396	—		8	417
1,743.0	182	9.0	54	9.1	76	11.7	178	1.30	4.8	14.9	46	53.9	116	20.0	126	7	418
741.8	292	5.3	142	6.2	148	18.0	87	0.87	2.4	3.6	127	51.2	123	10.2	255	22	419
58.0	432	(1.9)	403	(2.9)	415	—		(1.31)	—	—		71.4	70	8.0	278	11	420
818.6	283	4.3	174	5.0	191	14.1	138	0.89	(22.3)	1.1	193	(4.6)	372	6.5	292	20	421
371.7	365	1.2	337	1.1	340	2.8	319	0.19	—	—		30.0	212	—		7	422
203.1	400	1.4	328	2.3	291	6.0	277	0.81	(47.7)	—		7.6	323	13.4	210	11	423
658.0	305	6.3	103	10.7	54	18.7	77	2.21	(13.3)	11.1	99	12.4	298	31.0	31	23	424
409.2	358	0.2	366	0.2	367	0.4	344	0.02**	(96.7)	—		(11.7)	394	—		5	425
N.A.		2.8	255	2.7	276	—		N.A.	—	—		—		—		5	426
8,043.7	48	13.9	17	11.3	48	18.4	81	0.67	258.9	—		262.9	4	—		19	427
523.0	329	(93.9)	474	(39.8)	471	(149.2)	419	(33.55)	—	—		50.0	127	—		1	428
N.A.		—		—		—		N.A.	—	—		—		—		24	429
1,449.3	216	7.4	81	5.7	161	11.1	190	0.90	(14.3)	14.0	63	(0.5)	355	22.6	95	23	430
621.4	310	9.3	51	13.3	31	22.9	48	2.13	49.0	—		(10.1)	390	—		6	431
509.8	333	4.7	160	7.1	122	9.9	217	1.14	54.1	19.2	25	39.5	175	20.6	116	20	432
N.A.		(2.2)	407	(2.5)	411	—		N.A.	—	—		—		—		17	433
2,881.1	122	13.8	18	11.5	46	46.8	10	1.39	(72.5)	(15.1)	274	0.3	348	13.8	204	16	434
284.2	384	2.9	250	6.3	147	15.9	114	1.52	11.2	9.5	119	124.6	21	16.5	168	27	435
N.A.		1.4	327	2.4	287	—		N.A.	—	—		—		—		14	436
515.1	330	6.4	102	9.8	67	17.4	96	5.19	10.7	7.7	136	22.0	250	19.4	130	23	437
207.6	398	(2.9)	416	(3.3)	418	(10.3)	382	(1.40)	(209.4)	—		(6.6)	380	5.6	300	17	438
94.7	424	0.3	362	0.5	358	1.4	332	0.19**	(89.5)	(23.2)	285	(4.0)	368	2.4	325	11	439
1,627.2	197	11.3	32	15.9	15	26.4	36	2.47	16.5	10.4	106	47.3	139	18.9	136	5	440
460.9	343	3.6	212	4.0	225	—		12.55	—	—		N.A.		—		11	441
2,583.8	137	11.9	27	20.3	8	35.5	21	1.92	(16.5)	7.5	138	57.5	108	28.8	44	9	442
2,362.8	153	12.1	26	10.3	60	16.4	109	1.38	20.3	11.6	92	76.6	58	19.5	129	11	443
230.6	393	3.4	225	2.8	271	7.7	251	1.97	—	(4.0)	232	30.0	211	3.2	318	15	444
41.7	435	(19.2)	469	—		—		(8.63)	—	—		(34.2)	422	(19.0)	360	14	445
887.4	273	4.6	164	7.5	111	16.1	110	1.97	2.1	12.4	82	65.2	89	25.7	73	11	446
827.1	282	2.6	263	1.8	312	4.4	301	0.32	(71.7)	5.0	167	39.1	176	16.0	174	9	447
773.1	288	4.1	187	4.0	227	8.1	247	1.52	(24.0)	12.9	79	64.0	91	17.5	156	11	448
1,587.5	199	8.1	74	9.2	75	13.5	147	3.37	2.1	16.3	38	133.2	17	40.6	9	19	449
N.A.		—		—		—		N.A.	—	—		—		—		8	450

CONTINUED

THE FORTUNE

500

LARGEST U.S. INDUSTRIAL CORPORATIONS

RANK 1991	1990		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
451	407	**ANACOMP** Indianapolis*	639.5	(14.5)	29.2	287	205.0	690.1	364	(25.0)	463
452	446	**STANDARD PRODUCTS** Cleveland	638.2	(2.3)	(45.6)	415	(486.8)	367.8	466	102.4	443
453	441	**PRAIRIE FARMS DAIRY** Carlinville, Ill.*	637.7	(3.4)	N.A.		—	189.3	487	117.2	437
454	483	**VALSPAR** Minneapolis	632.6	10.7	27.7	291	3.5	319.4	477	147.9	419
455	431	**LUKENS** Coatesville, Pa.	631.4	(7.9)	23.0	308	(47.9)	432.4	444	248.3	360
456	460	**UIS** New York	630.0	1.8	30.0	284	(3.3)	420.9	448	335.2	276
457	457	**BELL & HOWELL** Skokie, Ill.	625.0	0.6	(5.1)	374	—	736.2	355	73.2	489
458	449	**SEALY HOLDINGS** Cleveland	623.9	(2.7)	(73.4)	426	—	805.0	336	166.5	408
459	455	**CARLISLE** Syracuse, N.Y.	621.2	(0.7)	(8.4)	378	(137.1)	355.7	471	190.1	394
460	477	**KENNAMETAL** Latrobe, Pa.*	619.5	5.0	21.1	315	(34.3)	476.2	430	243.5	364
461	372	**FAIRCHILD** Chantilly, Va.	612.0	(30.0)	28.3	289	1,755.9	1,068.8	291	142.8	422
462	439	**HON INDUSTRIES** Muscatine, Iowa	612.0	(8.2)	32.9	275	(23.8)	280.9	482	149.6	417
463	453	**BANTA** Menasha, Wis.	610.4	(3.0)	20.6	319	13.5	397.5	455	227.0	373
464	473	**LA-Z-BOY CHAIR** Monroe, Mich.	609.5	2.5	23.4	306	(17.3)	363.1	468	229.2	372
465	451	**ST. JOE PAPER** Jacksonville, Fla.	608.3	(4.6)	27.6	293	(33.2)	1,373.0	247	824.2	191
466	479	**SUN-DIAMOND GROWERS** Pleasanton, Calif.	602.9	3.6	N.A.		—	320.1	476	144.6	420
467	470	**REYNOLDS & REYNOLDS** Dayton	602.0	0.5	22.5	311	(7.9)	515.3	415	247.6	357
468	•	**DR PEPPER/SEVEN-UP** Dallas	600.9	11.2	(37.5)	419	—	780.8	342	(657.1)	500
469	426	**EAGLE-PICHER INDUSTRIES** Cincinnati	599.4	(14.4)	(15.8)	383	(140.2)	399.0	454	(188.0)	471
470	472	**BANDAG** Muscatine, Iowa	593.9	(0.3)	79.6	154	1.0	442.2	440	297.1	337
471	•	**DELTA WOODSIDE INDUSTRIES** Greenville, S.C.	590.4	17.7	23.9	302	302.0	434.1	443	172.7	404
472	447	**QUANEX** Houston	588.9	(9.4)	12.4	344	(55.6)	446.5	439	152.5	416
473	494	**HARMAN INTL. INDUSTRIES** Washington, D.C.	586.9	5.4	(19.8)	387	(240.6)	359.4	470	80.8	488
474	462	**MEDIA GENERAL** Richmond	585.9	(4.4)	(62.1)	421	(343.7)	762.3	347	201.9	388
475	456	**INTERFACE** LaGrange, Ga.	581.8	(6.7)	8.9	362	(62.2)	569.5	400	199.0	391
476	452	**P.H. GLATFELTER** Spring Grove, Pa.	577.0	(8.9)	76.0	161	(13.9)	630.1	381	447.3	270
477	486	**LOCTITE** Hartford	574.6	1.3	71.9	168	6.7	528.9	414	361.2	308
478	471	**THOMAS & BETTS** Bridgewater, N.J.	573.3	(4.3)	48.4	253	0.1	599.7	389	363.4	304
479	474	**WARNACO GROUP** New York	573.1	(3.5)	(28.4)	402	(639.4)	540.5	410	(1.7)	497
480	496	**WESTMORELAND COAL** Philadelphia	570.3	2.5	(13.4)	380	(207.0)	320.7	475	144.3	421
481	492	**GOULDS PUMPS** Seneca Falls, N.Y.	568.8	1.8	30.7	279	0.4	395.9	456	219.3	379
482	424	**INTERNATIONAL CONTROLS** Kalamazoo, Mich.	567.3	(19.9)	5.2**	38	(30.7)	470.9	433	(98.0)	478
483	458	**KIMBALL INTERNATIONAL** Jasper, Ind.	564.7	(8.9)	30.0	283	(31.0)	382.7	461	294.5	340
484	478	**CARPENTER TECHNOLOGY** Reading, Pa.	562.5	(3.7)	30.1	282	(33.2)	717.0	359	319.9	324
485	•	**PLY GEM** New York	561.5	2.9	4.0	365	27.2	281.1	481	111.3	442
486	•	**ARCADIAN** Memphis*	558.1	15.7	11.8**	345	—	538.1	412	(18.3)	483
487	493	**ALBANY INTERNATIONAL** Albany, N.Y.	557.7	(0.1)	10.3	349	34.8	674.7	368	244.4	363
488	•	**SILICON GRAPHICS** Mountain View, Calif.*	557.3	30.7	32.9	269	2.1	641.8	379	495.3	233
489	•	**CONSTAR INTERNATIONAL** Chattanooga	548.2	8.6	16.8	331	23.8	311.2	482	153.6	415
490	•	**DELL COMPUTER** Austin, Texas*	546.2	40.6	27.2	295	432.5	246.2	484	112.0	441
491	•	**STERLING CHEMICALS** Houston*	542.7	6.9	36.8	258	(37.7)	361.0	469	112.2	440
492	•	**FIRST MISSISSIPPI** Jackson, Miss.	539.1	8.4	5.3	362	21.4	476.5	429	187.9	396
493	•	**ANALOG DEVICES** Norwood, Mass.	538.5	11.0	8.2	356	—	503.3	418	354.4	308
494	•	**PRECISION CASTPARTS** Portland, Ore.*	538.3	17.7	33.4	268	14.8	422.3	446	269.6	349
495	498	**BARNES GROUP** Bristol, Conn.	538.3	(2.1)	15.9	333	(5.2)	341.9	474	138.8	425
496	•	**STANDARD MOTOR PRODUCTS** New York	534.8	5.3	6.7	359	(13.8)	392.8	459	155.3	414
497	•	**AMERICAN MAIZE-PRODUCTS** Stamford, Conn.	533.6	5.8	11.3	347	(16.5)	459.6	436	158.7	413
498	489	**WISCONSIN DAIRIES COOPERATIVE** Baraboo, Wis.*	533.3	(5.3)	N.A.		—	137.1	488	68.8	492
499	•	**BLOCK DRUG** Jersey City, N.J.*	530.9	17.2	53.2	218	15.3	550.7	408	398.7	290
500	500	**GUILFORD MILLS** Greensboro, N.C.*	528.8	(3.2)	15.9**	334	—	375.3	464	178.1	401
		TOTALS	2,262,652.0		55,137.8			2,457,651.8		763,210.9	

451–500

MARKET VALUE 3/6/92	PROFITS AS % OF . . .			EARNINGS PER SHARE			TOTAL RETURN TO INVESTORS		Industry table number	RANK 1991
	SALES	ASSETS	COMMON STOCK-HOLDERS' EQUITY		% change from 1990	1981-91 annual growth rate	1991	1981-91 annual rate		
$ millions Rank	% Rank	% Rank	% Rank	$ 1991		% Rank	% Rank	% Rank		
189.1 401	4.6 163	4.2 276	—	0.65	225.0	(3.0) 218	121.4 25	(10.7) 352	22	451
326.3 377	(7.1) 446	(12.4) 456	(44.6) 458	(4.49)	(487.1)	—	96.3 37	32.3 28	21	452
N.A.	—	—	—	N.A.	—	—	—	—	5	453
723.9 295	4.4 173	8.7 85	18.7 74	2.53	3.3	13.5 81	65.5 48	35.8 17	5	454
393.6 360	3.6 207	5.3 180	8.7 235	2.52	(50.3)	6.4 130	5.5 335	20.6 114	15	455
N.A.	4.8 158	7.1 120	—	N.A.	—	—	—	—	17	456
N.A.	(0.8) 386	(0.7) 381	—	N.A.	—	—	—	—	5	457
N.A.	(11.8) 446	(9.1) 449	—	N.A.	—	—	—	—	15	458
296.5 382	(1.4) 353	(2.4) 408	(4.4) 393	(1.10)	(138.5)	—	42.6 143	7.2 355	9	459
340.6 373	3.4 227	4.4 267	8.7 236	2.00	(35.1)	(3.2) 221	8.3 322	1.9 328	21	460
84.9 427	4.6 162	2.7 290	19.8 43	1.65	2,650.0	30.3 1	9.5 316	5.8 299	1	461
620.0 312	5.4 136	11.7 44	22.0 14	1.02	(21.5)	8.6 29	35.5 90	18.2 148	15	462
442.2 346	3.4 221	5.2 183	9.1 228	1.58	11.3	7.4 6	19.8 211	26.9 53	21	463
479.8 340	3.8 197	6.4 138	10.2 217	1.30	(17.7)	9.5 57	47.5 126	26.7 57	15	464
1,219.9 232	4.5 169	2.0 307	3.3 314	0.90	(33.3)	—	9.7 313	—	9	465
N.A.	—	—	—	N.A.	—	—	—	—	5	466
423.0 353	3.7 214	4.4 270	9.1 229	2.13	(7.4)	10.9 98	138.2 6	18.1 147	21	467
N.A.	(6.2) 443	(4.8) 432	—	N.A.	—	—	—	—	5	468
26.1 436	(2.6) 414	(4.0) 425	—	(1.44)	(139.6)	—	(63.6) 458	(20.9) 382	17	469
1,664.2 191	13.4 19	18.0 10	26.8 34	5.72	4.0	16.0 39	44.3 95	27.5 56	21	470
514.0 332	4.1 188	5.5 168	13.9 139	1.27	296.9	—	285.7 2	—	23	471
335.3 374	2.1 297	2.8 372	7.8 246	1.02	(49.8)	(10.4) 253	89.9 11	2.9 421	15	472
122.8 416	(3.4) 423	(5.5) 433	(24.5) 462	(2.26)	(240.4)	—	14.5 288	—	17	473
562.2 320	(10.6) 458	(8.1) 445	(30.8) 464	(2.39)	(343.9)	—	(6.6) 419	7.5 291	20	474
230.5 394	1.5 317	1.6 322	4.5 399	0.52	(62.0)	40.4 1	24.5 239	—	24	475
1,238.8 230	13.2 10	12.1 43	17.0 82	3.34	(11.2)	18.4 2	26.1 230	33.5 21	9	476
1,668.5 190	12.5 21	13.6 28	19.9 51	1.98	6.5	22.4 3	70.1 45	26.8 58	21	477
1,067.3 252	8.5 83	8.1 93	13.3 150	2.84	0.0	2.8 174	26.9 228	11.1 233	21	478
532.5 324	(5.0) 439	(5.3) 434	—	N.A.	—	—	—	—	5	479
132.0 414	(2.4) 410	(4.2) 427	(9.3) 380	(1.62)	(207.3)	—	(0.7) 358	0.2 333	16	480
563.5 319	5.4 131	7.8 101	14.0 137	1.48	(0.7)	0.1 206	26.1 234	6.1 294	21	481
N.A.	0.9 348	1.1 343	—	N.A.	—	—	—	—	17	482
502.2 330	5.3 137	7.8 102	10.2 208	1.42	(30.7)	7.0 140	28.2 215	18.4 145	15	483
398.3 359	5.3 138	4.2 278	9.4 224	3.52	(30.3)	(3.8) 225	10.1 315	5.4 302	17	484
113.1 420	0.7 352	1.4 328	3.6 310	0.39	25.8	(0.6) 210	65.7 56	20.3 117	9	485
N.A.	2.1 290	2.2 297	—	N.A.	—	—	—	—	5	486
384.2 362	1.8 322	1.5 325	4.2 398	0.41	36.7	—	56.7 61	—	24	487
1,173.9 236	5.9 112	5.1 186	10.2 207	1.45	(14.2)	—	67.6 52	—	8	488
283.3 385	3.1 243	5.4 173	10.9 191	2.24	22.4	2.5 184	113.7 20	18.5 142	22	489
861.6 278	5.0 153	11.1 51	24.3 45	1.36	403.7	—	38.5 178	—	6	490
275.3 386	6.8 94	10.2 62	32.8 24	0.67	(37.4)	—	(18.3) 442	—	5	491
271.7 388	1.0 341	1.1 340	2.8 387	0.27	22.7	(15.1) 272	13.3 292	(2.2) 340	5	492
445.3 345	1.5 318	1.6 318	2.3 405	0.17	—	3.5 170	43.4 132	8.5 280	17	493
523.6 328	6.2 126	7.9 89	12.4 165	1.92	12.9	19.1 16	(5.0) 413	24.0 73	5	494
205.5 399	3.0 248	4.7 248	11.5 182	2.60	(5.8)	13.9 65	42.4 143	11.0 243	14	495
131.2 415	1.2 332	1.7 314	4.3 396	0.51	(13.6)	(11.1) 257	33.5 96	3.9 414	17	496
151.6 409	2.1 291	2.5 288	7.1 261	1.76	(13.7)	(2.8) 219	13.0 294	12.1 226	9	497
N.A.	—	—	—	N.A.	—	—	—	—	9	498
1,051.0 253	10.0 44	9.7 70	13.3 151	2.97	16.8	11.6 90	60.8 63	28.4 47	23	499
311.7 378	3.0 247	4.2 274	8.9 231	1.79	—	(2.2) 212	103.5 15	16.7 166	24	500
1,740,776.0										

CONTINUED

NOTES

DEFINITIONS AND EXPLANATIONS

SALES

All companies on the list must derive more than 50% of their sales from manufacturing and/or mining and must publish financial data. Sales include operating revenues and other income from dividends, interest, royalties, etc. Sales of consolidated subsidiaries are included. So are sales from discontinued operations if these figures are published. If the sales are at least 10% higher for this reason, there is a (¶) symbol next to the sales figure. All figures are for the year ended December 31, 1991, unless otherwise noted. Sales figures do not include excise taxes collected by manufacturers, so the numbers for some corporations—most of which sell gasoline, liquor, or tobacco—may be lower than those published by the corporations themselves. If they are at least 5% lower for this reason, there is an asterisk (*) next to the sales figures.

PROFITS

Profits are shown after taxes and after extraordinary credits or charges if any appear on the income statement. A double asterisk (**) signifies an extraordinary credit amounting to at least 10% of the profits shown, a double dagger (‡) an extraordinary charge of at least 10%. Figures in parentheses indicate a loss. Profit declines over 100% reflect swings from 1990 profits to 1991 losses. Cooperatives provide only net margin figures, which are not comparable with the profits figures in these listings, and therefore N.A. is shown in that column.

ASSETS

Assets shown are the company's year-end total.

STOCKHOLDERS' EQUITY

Total stockholders' equity is the sum of capital stock, surplus, and retained earnings at the company's year-end. Preferred stock capital that is technically construed to be debt has been excluded. Redeemable preferred stock whose redemption is either mandatory or outside the control of the company is therefore excluded, as is any portion of an ESOP convertible preferred whose repayment is guaranteed by the company. For purposes of calculating profits as percent of common stockholders' equity, all preferred stock is excluded. The dividends paid on such stock have been subtracted from the profit figures.

MARKET VALUE

The figure shown was arrived at by multiplying the number of common shares outstanding (at the latest date available) by the price per common share as of March 6, 1992. Shares traded on a when-issued basis are excluded.

EARNINGS PER SHARE

The figures shown for each company are the primary earnings per share that appear on the income statement. Per share earnings for 1990 and 1981 are adjusted for stock splits and stock dividends. They are not restated for mergers, acquisitions, or accounting changes. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the profit shown, a double dagger (‡) an extraordinary charge of at least 10%. Results are listed as not available (N.A.) if the companies are cooperatives, joint ventures, or wholly owned subsidiaries of other companies; if the figures were not published; or if the stock traded on a limited basis and was not widely held. The 1981–91 growth rate is the annual rate, compounded.

TOTAL RETURN TO INVESTORS

Total return to investors includes both price appreciation and dividend yield to an investor in the company's stock. The figures shown assume sales at the end of last year of stock owned at the end of 1981 and 1990. It has been assumed that any proceeds from cash dividends, the sale of rights and warrant offerings, and stock received in spinoffs were reinvested when they were paid. Returns are adjusted for stock splits, stock dividends, recapitalizations, and corporate reorganizations as they occur; however, no effort has been made to reflect the cost of brokerage commissions or of taxes. Results are listed as not available (N.A.) if shares are not publicly traded or are traded on a limited basis. If companies have more than one class of shares outstanding, only the more widely held and actively traded has been considered. Total return percentages shown are the returns received by the hypothetical investor described above. The 1981–91 return is the annual rate, compounded.

MEDIANS

The median figures in the tables refer only to results of companies in the 500, and no attempt has been made to calculate them in groups with fewer than four companies. The medians for profit changes from 1990 do not include companies that lost money in both 1990 and 1991, because no meaningful percentage changes can be calculated in such cases.

Most of the figures in this FORTUNE 500 Directory were prepared by Alison Rogers and Ricardo Sookdeo, who are responsible for the columns reporting on companies' sales, assets, profits, and stockholders' equity, and the industry table numbers. Figures on market value, earnings per share, and total return to investors were prepared by Claudine Knight and Kathleen Smyth.

FOOTNOTES TO THE 500

* Does not include excise taxes; see the explanation of "sales" above.
** Reflects an extraordinary credit of at least 10%; see the explanations of "profits" and "earnings per share" above.
N.A. Not available.
‡ Reflects an extraordinary charge of at least 10%; see the explanations of "profits" and "earnings per share" above.
¶ Includes sales of discontinued operations of at least 10%; see the explanation of "sales" above.
§ Dividends paid on certain preferred stocks subtracted from profits; see explanation of "stockholders' equity" above.

1

Figures are for fiscal year ended June 30, 1991.
Owned by Royal Dutch/Shell Group (1990 Global 500 rank: 2).
Figures are for fiscal year ended May 31, 1991.
Figures include Beatrice (1990 rank: 115), acquired August 14, 1990.
Stock split into two classes. Figures are pro forma.
Fiscal year-end changed from May 31. Figures are for 12 months ended June 30, 1991.
Figures are for fiscal year ended October 31, 1991.
Figures are for fiscal year ended September 30, 1991.
Owned by Unilever (1990 Global 500 rank: 21).

10

Owned by Hanson (1990 Global 500 rank: 129).
Owned by Hoechst (1990 Global 500 rank: 34).
Figures are for fiscal year ended April 30, 1991.
Figures are for fiscal year ended July 31, 1991.
Name changed from Bayer USA, January 1, 1992.
Owned by Bayer AG (1990 Global 500 rank: 39).
Owned by Philips' Gloeilampenfabrieken (1990 Global 500 rank: 28).
Owned by BASF (1990 Global 500 rank: 32).
Figures are for fiscal year ended November 30, 1991.
Owned by American Financial (1990 Service 500 rank: S-7).

20

Owned by Rhône-Poulenc (1990 Global 500 rank: 81).
Figures are for fiscal year ended January 31, 1991.
Owned by Seagram (1990 Global 500 rank: 291).
Figures are for fiscal year ended August 31, 1991.
Cooperatives provide only net margin figures, which are not comparable to the profit figures on this list.
Owned by Kelso.
Name changed from American Petrofina, April 17, 1991.
Owned by Petrofina (1990 Global 500 rank: 67).
Owned by Total (1990 Global 500 rank: 42).
Figures are for fiscal year ended March 31, 1991.

30

Owned by McDermott International (1990 Global 500 rank: 479).
Figures are for fiscal year ended February 28, 1991.
FORTUNE estimate.
Name changed from Burlington Holdings, September 30, 1991.
Name changed from York Holdings, September 1991.
Owned by Lafarge Coppée (1990 Global 500 rank: 229).
Name changed from Duracell Holdings, April 29,1991.
Name changed from Rohr Industries, December 7, 1991.
Owned by Vitro.
Owned by Morgan Stanley Group (1990 Service 500 rank: F-9).

40

Name changed from IBC Holdings, May 31, 1991.
Name changed from Amstar Sugar, September 20, 1991.
Company changed fiscal year-end to March 31, effective in 1992. Figures are for calendar year 1991.
Owned by Holderbank Financiere Glaris (1990 Global 500 rank: 354).
Owned by ITT (1990 Service 500 rank: F-10).
Owned by Pacificorp (1990 Global Service 500 rank: U-41).
Fiscal year-end changed to December 31.
On December 3, 1991, Valtni reduced its interest in NL Industries to less than 50%.
Figures includes Tonka (1990 rank: 398), acquired May 7, 1991.

CONTINUED

HIGHLIGHTS

ARRIVALS AND DEPARTURES

NEWCOMERS TO THE 500

	SALES RANK
AMGEN	427
ANALOG DEVICES	493
ARCADIAN	486
AST RESEARCH	431
BLOCK DRUG	499
BLOUNT	439
BROOKE GROUP	289
DELL COMPUTER	490
DU PONT MERCK PHARMACEUTICALS	400
FIRST MISSISSIPPI	492
HUFFY	435
MAXTOR	365
PLY GEM	485
PRECISION CASTPARTS	494
QUANTUM	363
SILICON GRAPHICS	488
STANDARD MOTOR PRODUCTS	496
TOTAL PETROLEUM	176
UNITED STATES SURGICAL	376

RETURNED TO THE 500*

AMERICAN MAIZE-PRODUCTS	(1988: 474)	497
ANCHOR GLASS CONTAINER	(1989: 338)	307
CITGO PETROLEUM	(1989: 105)	54
CONSTAR INTERNATIONAL	(1988: 464)	489
DEL MONTE	(1978: 171)	267
DELTA WOODSIDE INDUSTRIES	(1989: 488)	471
DR PEPPER/SEVEN-UP	(1988: 491)	468
NL INDUSTRIES	(1987: 253)	377
STERLING CHEMICALS	(1989: 479)	491

DISPLACED FROM THE 500

	1990 SALES RANK
BEATRICE[1]	115
BUTLER MANUFACTURING	488
CHEMED	469
CONTROL DATA[2]	238
DIXIE YARNS	495
FINEVEST FOODS	420
GENERAL INSTRUMENT[3]	278
HANDY & HARMAN	484
HARCOURT BRACE JOVANOVICH[4]	274
HORSEHEAD INDUSTRIES[5]	425
LONE STAR TECHNOLOGIES	463
LORILLARD[6]	253
MUELLER INDUSTRIES	362
NASHUA	475
NCR[7]	79
OXFORD INDUSTRIES	497
PENN CENTRAL[8]	204
PETER KIEWIT SONS'[9]	105
PHILIPS INDUSTRIES5	357
POPE & TALBOT	491
SCIENTIFIC-ATLANTA	459
SOUTHDOWN	487
SQUARE D5	244
SSMC[10]	461
TONKA[11]	398
TREDEGAR INDUSTRIES	499
VALMONT INDUSTRIES	371
ZURN INDUSTRIES[12]	464

* Figures in parentheses indicate year and sales rank the last time the company was listed.

[1] Acquired by ConAgra (rank: 19).

[2] No longer classified as industrial.

[3] Acquired by Forstmann Little, August 15, 1990.

[4] Acquired by General Cinema (1990 Service 500 rank: R-50), November 25, 1991.

[5] Figures no longer made public.

[6] Acquired by AT&T (1990 Service 500 rank: S-1), September 19, 1991.

[7] No longer incorporated in the U.S.

[8] Acquired by Hasbro (rank: 198).

THE MONEY LOSERS

COMPANY	SALES RANK	LOSS $ mil.
GENERAL MOTORS	1	4,452.8*
INTL. BUSINESS MACHINES	4	2,827.0
FORD MOTOR	3	2,258.0
UNISYS	58	1,393.3*
WESTINGHOUSE ELECTRIC	30	1,086.0
UNITED TECHNOLOGIES	16	1,021.0
CHRYSLER	11	795.0
BETHLEHEM STEEL	115	767.0*
OWENS-CORNING FIBERGLAS	164	742.0
TENNECO	27	732.0
HENLEY GROUP	428	661.0*
DIGITAL EQUIPMENT	28	617.4
USX	24	578.0
TEXAS INSTRUMENTS	77	409.0*
CATERPILLAR	45	404.0
SUN	44	387.0
WANG LABORATORIES	201	385.5*
CLARK EQUIPMENT	303	337.5
ARMCO	249	336.5*
INLAND STEEL INDUSTRIES	139	275.1*
OWENS-ILLINOIS	122	273.6*
ALLIED-SIGNAL	36	273.0
NATIONAL STEEL	107	189.0
TRINOVA	235	184.1
GAYLORD CONTAINER	416	180.3*
INTERCO	255	176.3
NAVISTAR INTERNATIONAL	136	165.0*
WEYERHAEUSER	57	161.9
USG	224	161.0*
INSPIRATION RESOURCES	325	151.7*
NATIONAL SEMICONDUCTOR	229	151.4*
AMERICAN STANDARD	131	143.2*
GEORGIA-PACIFIC	38	142.0
TRW	62	140.0
WESTERN DIGITAL	339	134.2
ROBERTSON-CECO	445	124.8*
QUANTUM CHEMICAL	178	123.3
MAGMA COPPER	415	120.5
FORT HOWARD	311	110.6*
CINCINNATI MILACRON	403	100.2*
HOLNAM	342	95.1*
WICKES	171	91.6
OUTBOARD MARINE	341	84.3*
COCA-COLA ENTERPRISES	116	82.4
B.F. GOODRICH	179	80.6
BOISE CASCADE	117	79.4
JEFFERSON SMURFIT	156	77.1
WEIRTON STEEL	330	74.7
SEALY HOLDINGS	458	73.4*
CRYSTAL BRANDS	386	71.4
SCOTT PAPER	102	69.9
BURLINGTON INDUSTRIES CAPITAL	205	68.6*
GITANO GROUP	405	62.5
MEDIA GENERAL	474	62.1
ALLERGAN	354	59.5
ZENITH ELECTRONICS	282	51.6*
LAFARGE	257	50.4
STONE CONTAINER	98	49.1
BASF	103	47.5
STANDARD PRODUCTS	452	45.6
MAXTOR	365	45.4
CYCLOPS INDUSTRIES	327	41.2*
HARTMARX	298	38.4*
DR PEPPER/SEVEN-UP	468	37.5*
TIMKEN	242	35.7
DURACELL INTERNATIONAL	260	34.2
TEREX	397	33.4
LSS HOLDINGS	319	33.2*
UCC INVESTORS HOLDING	383	31.7*
WARNACO GROUP	479	28.4
UNION CARBIDE	66	28.0
NORTEK	350	27.1*
DEL MONTE	267	27.0
TELEDYNE	147	25.4
BRUNSWICK	204	23.7
RAYCHEM	291	23.4*
DEERE	72	20.2
HARSCO INTL. INDUSTRIES	473	19.8
SPX	438	19.4
DWG	297	16.9*
NL INDUSTRIES	377	16.5
EAGLE-PICHER INDUSTRIES	469	15.8
PERKIN-ELMER	361	15.6
INSILCO	433	14.8*
CUMMINS ENGINE	138	14.1*
INTERLAKE	420	13.7*
WESTMORELAND COAL	480	13.4
OLIN	191	13.0
EXIDE	413	12.3*
TOTAL PETROLEUM	176	11.5
MAXUS ENERGY	401	11.2
MURPHY OIL	223	11.2
MCDERMOTT	190	10.7
STANDARD COMMERCIAL	329	9.6*
MASCO INDUSTRIES	262	9.0*
JPS TEXTILE GROUP	410	8.6*
CARLISLE	459	8.4
INTERSTATE BAKERIES	317	8.0*
DEXTER	347	7.1
CROWN CENTRAL PETROLEUM	225	6.0
BELL & HOWELL	457	5.1*
FEDERAL-MOGUL	290	4.9
YORK INTERNATIONAL	240	4.3

*Also lost money in 1990.

CONTINUED

HOW THE 500 PERFORMED

The tables on this and the following pages show the biggest achievers by 12 measures, from sales increases to investment performance. We list the top 50 in each category—beyond that, distinctions narrow. (You can find performance figures for all 500 companies in the master table.)

Most of this year's stars rank well down in the sales list, like Thorn Apple Valley, No. 390, a producer of bacon and sausage that last year rewarded investors with a stunning 384.6% total return. Amgen, a biotech company, is a newcomer that landed at No. 427 and claimed the top spot in sales growth.

Looking at one table alone may not unearth the full story. Rohr's astronomical profit increase (78,148.7%) came from a small base and so yielded earnings of just $30.5 million. But Campbell Soup, with a measly 9,025% gain, weighed in with a $401.5 million profit. Now *that's* performance.

BIGGEST INCREASES IN SALES

RANK		500 SALES RANK	SALES % change from 1990	SALES $ millions
1	AMGEN	427	126.9	705.0
2	QUANTUM	363	96.7	877.7
3	MAXTOR	365	74.8	875.3
4	BALL	192	67.1	2,267.4
5	UNITED STATES SURGICAL	376	64.1	843.6
6	LORAL	200	63.3	2,136.0
7	TYCO LABORATORIES	149	47.8	3,107.9
8	HASBRO	198	40.9	2,141.1
9	DELL COMPUTER	490	40.6	546.2
10	STORAGE TECHNOLOGY	239	40.5	1,653.3
11	WEST POINT-PEPPERELL	246	34.6	1,634.1
12	DIBRELL BROTHERS	334	31.7	1,012.1
13	SUN MICROSYSTEMS	146	31.4	3,259.8
14	HUFFY	435	31.4	678.9
15	BROOKE GROUP	289	30.9	1,255.9
16	SILICON GRAPHICS	488	30.7	557.3
17	AST RESEARCH	431	29.3	696.7
18	RHÔNE-POULENC RORER	123	29.1	3,824.3
19	NATL. COOP. REFINERY ASSN.	368	28.8	869.5
20	ROHR	273	27.0	1,386.2
21	CONAGRA	19	25.7	19,504.7
22	SMITHFIELD FOODS	322	25.6	1,071.8
23	CROWN CORK & SEAL	124	23.6	3,807.4
24	MEDTRONIC	331	22.5	1,031.1
25	THORN APPLE VALLEY	390	22.1	818.0
26	HELENE CURTIS INDUSTRIES	355	21.7	891.9
27	GREAT LAKES CHEMICAL	278	21.0	1,347.9
28	CONNER PERIPHERALS	248	20.4	1,626.5
29	MITCHELL ENERGY & DEVEL.	402	20.2	791.3
30	MOLEX	418	19.0	715.7
31	JOY TECHNOLOGIES	441	18.7	667.5
32	PRECISION CASTPARTS	494	17.7	538.3
33	DELTA WOODSIDE INDUSTRIES	471	17.7	590.4
34	SAFETY-KLEEN	430	17.7	696.9
35	BAROID	425	17.3	708.1
36	BLOCK DRUG	499	17.2	530.9
37	DRESSER-RAND	305	17.0	1,192.4
38	CITGO PETROLEUM	54	16.7	8,921.9
39	HOECHST CELANESE	75	16.6	6,856.0
40	READER'S DIGEST ASSN.	185	16.4	2,395.3
41	UST	362	16.4	879.4
42	UNIVERSAL	144	16.3	3,274.4
43	MORTON INTERNATIONAL	219	16.0	1,920.8
44	INTEL	106	15.9	4,778.6
45	ARCADIAN	486	15.7	558.1
46	LIZ CLAIBORNE	207	15.7	2,029.3
47	LEVI STRAUSS ASSOCIATES	104	15.4	4,902.9
48	PALL	443	15.2	663.1
49	UPJOHN	135	15.0	3,487.7
50	MAXUS ENERGY	401	14.9	793.2
	THE 500 MEDIAN		0.6	1,622.0

CONTINUED

THE 500 RANKED BY

PERFORMANCE

HIGHEST PROFITS

RANK		500 SALES RANK	PROFITS $ millions	PROFITS % change from 1990
1	EXXON	2	5,600.0	11.8
2	PHILIP MORRIS	7	3,006.0	(15.1)
3	GENERAL ELECTRIC	5	2,636.0	(38.7)
4	MERCK	59	2,121.7	19.1
5	BRISTOL-MYERS SQUIBB	40	2,056.0	17.6
6	MOBIL	6	1,920.0	(0.5)
7	PROCTER & GAMBLE	13	1,773.0	10.7
8	COCA-COLA	37	1,618.0	17.1
9	BOEING	12	1,567.0	13.1
10	AMOCO	14	1,484.0	(22.4)
11	JOHNSON & JOHNSON	34	1,461.0	27.8
12	E.I. DU PONT DE NEMOURS	8	1,403.0	(39.3)
13	AMERICAN HOME PRODUCTS	71	1,375.3	11.8
14	ELI LILLY	95	1,314.7	16.6
15	TEXACO	9	1,294.0	(10.8)
16	CHEVRON	10	1,293.0	(40.1)
17	MINNESOTA MINING & MFG.	29	1,154.0	(11.8)
18	ABBOTT LABORATORIES	74	1,088.7	12.7
19	PEPSICO	17	1,080.2	0.3
20	DOW CHEMICAL	20	942.0	(31.9)
21	ANHEUSER-BUSCH	42	939.8	11.6
22	INTEL	106	818.6	25.9
23	AMERICAN BRANDS	61	806.1	35.3
24	HEWLETT-PACKARD	26	755.0	2.2
25	PFIZER	69	722.1	(9.9)
26	ATLANTIC RICHFIELD	23	709.0	(64.7)
27	POLAROID	203	683.7	352.8
28	HANSON INDUSTRIES NA	70	660.2	44.7
29	SCHERING-PLOUGH	126	645.6	14.2
30	EMERSON ELECTRIC	65	631.9	3.0
31	KELLOGG	92	606.0	20.5
32	ROCKWELL INTERNATIONAL	35	600.5	(3.8)
33	RAYTHEON	51	591.8	6.2
34	BAXTER INTERNATIONAL	55	591.0	1,377.5
35	H.J. HEINZ	79	568.0	12.6
36	UPJOHN	135	537.4	17.9
37	J.E. SEAGRAM	127	536.7	(4.3)
38	SARA LEE	33	535.0	13.8
39	KIMBERLY-CLARK	76	508.3	17.6
40	GENERAL DYNAMICS	50	505.0	—
41	GENERAL MILLS	68	472.7	23.9
42	ARCHER-DANIELS-MIDLAND	60	466.7	(3.5)
43	OCCIDENTAL PETROLEUM	43	459.9	—
44	MOTOROLA	39	454.0	(9.0)
45	XEROX	22	454.0	86.8
46	BERKSHIRE HATHAWAY	158	439.9	11.7
47	GILLETTE	107	427.4	16.2
48	MCDONNELL DOUGLAS	21	423.0	38.2
49	CAMPBELL SOUP	82	401.5	9,025.0
50	COOPER INDUSTRIES	86	393.2	8.8
THE 500 MEDIAN			45.0	

BIGGEST INCREASES IN PROFITS*

RANK		500 SALES RANK	PROFITS % change from 1990	PROFITS $ millions
1	ROHR	273	78,148.7	30.5
2	RHONE-POULENC RORER	123	32,913.1	326.5
3	CAMPBELL SOUP	82	9,025.0	401.5
4	AMGEN	427	2,431.7	97.9
5	FAIRCHILD	461	1,755.9	28.3
6	BAXTER INTERNATIONAL	55	1,377.5	591.0
7	AVERY DENNISON	175	967.8	63.0
8	SCI SYSTEMS	314	446.8	12.6
9	DELL COMPUTER	490	432.5	27.2
10	WHITMAN	161	405.7	97.6
11	POLAROID	203	352.8	683.7
12	SMITHFIELD FOODS	322	305.9	28.7
13	DELTA WOODSIDE INDUSTRIES	471	302.0	23.9
14	SILGAN	436	216.9	9.3
15	ANACOMP	451	205.0	29.2
16	TECUMSEH PRODUCTS	304	199.3	42.5
17	UNION TEXAS PETROLEUM	323	186.9	332.8
18	WHIRLPOOL	78	136.1	170.0
19	MILLIPORE	412	117.2	60.4
20	VF	152	98.9	161.3
21	UNITED STATES SURGICAL	376	98.0	91.2
22	PREMARK INTERNATIONAL	163	96.6	102.3
23	SONOCO PRODUCTS	231	88.2	94.8
24	XEROX	22	86.8	454.0
25	AST RESEARCH	431	84.6	64.7
26	CABOT	256	79.2	127.3
27	DIBRELL BROTHERS	334	76.0	21.2
28	SUN MICROSYSTEMS	146	71.1	190.3
29	BROWN-FORMAN	315	57.0	145.2
30	QUANTUM	363	56.5	73.9
31	IMCERA GROUP	244	56.1	88.2
32	MITCHELL ENERGY & DEVEL.	402	54.9	47.3
33	STANDARD REGISTER	432	50.1	32.7
34	HANSON INDUSTRIES NA	70	44.7	660.2
35	FRUIT OF THE LOOM	247	44.0	111.0
36	LEVI STRAUSS ASSOCIATES	104	42.0	356.7
37	C.R. BARD	364	41.9	57.2
38	INTERNATIONAL MULTIFOODS	195	38.9	35.2
39	THERMO ELECTRON	385	38.9	47.1
40	PITNEY BOWES	137	38.4	295.3
41	MCDONNELL DOUGLAS	21	38.2	423.0
42	CITGO PETROLEUM	54	37.4	135.7
43	CHIQUITA BRANDS INTL.	110	36.8	128.5
44	ALLIANT TECHSYSTEMS	328	36.1	33.2
45	AMERICAN BRANDS	61	35.3	806.1
46	ALBANY INTERNATIONAL	487	34.8	10.3
47	E.W. SCRIPPS	284	34.5	64.6
48	CONAGRA	19	34.3	311.2
49	STORAGE TECHNOLOGY	239	34.3	93.1
50	LEGGETT & PLATT	320	33.9	39.4
THE 500 MEDIAN			(12.5)	

*Excludes companies that lost money in 1990

CONTINUED

THE 500 RANKED BY

PERFORMANCE

HIGHEST RETURNS ON . . .

SALES

RANK		500 SALES RANK	PROFITS as % of sales
1	POLAROID	203	32.6
2	UNION TEXAS PETROLEUM	323	31.1
3	UST	362	30.2
4	MERCK	59	24.7
5	ELI LILLY	95	23.0
6	GAF	351	22.7
7	AMERICAN HOME PRODUCTS	71	19.4
8	BRISTOL-MYERS SQUIBB	40	18.2
9	SCHERING-PLOUGH	126	17.5
10	INTEL	106	17.1
11	INTL. FLAVORS & FRAGR.	333	16.6
12	ABBOTT LABORATORIES	74	15.7
13	UPJOHN	135	15.4
14	BERKSHIRE HATHAWAY	158	15.1
15	J.E. SEAGRAM	127	14.6
16	COCA-COLA	37	14.0
17	AMGEN	427	13.9
18	NEWMONT MINING	434	13.8
19	BANDAG	470	13.4
20	P.H. GLATFELTER	476	13.2
21	CRAY RESEARCH	370	13.1
22	MEDTRONIC	331	12.9
23	BROWN-FORMAN	315	12.9
24	LOCTITE	477	12.5
25	DELUXE	263	12.3
26	PALL	443	12.1
27	TAMBRANDS	442	11.9
28	ADVANCED MICRO DEVICES	296	11.8
29	HUBBELL	407	11.8
30	JOHNSON & JOHNSON	34	11.7
31	GREAT LAKES CHEMICAL	278	11.7
32	BETZ LABORATORIES	440	11.3
33	WM. WRIGLEY JR.	308	11.1
34	PHELPS DODGE	180	11.1
35	LIZ CLAIBORNE	207	11.0
36	MEREDITH	411	10.9
37	UNITED STATES SURGICAL	376	10.8
38	BURLINGTON RESOURCES	215	10.6
39	KELLOGG	92	10.5
40	CONSOLIDATED PAPERS	360	10.4
41	NALCO CHEMICAL	277	10.2
42	PFIZER	69	10.1
43	NEWELL	316	10.0
44	BLOCK DRUG	499	10.0
45	VALERO ENERGY	335	9.8
46	RUBBERMAID	237	9.7
47	CORNING	143	9.6
48	AMERICAN BRANDS	61	9.6
49	GERBER PRODUCTS	301	9.4
50	HANSON INDUSTRIES NA	70	9.3
THE 500 MEDIAN			3.2

ASSETS

RANK		500 SALES RANK	PROFITS as % of assets
1	UST	362	40.5
2	POLAROID	203	36.2
3	AMERICAN HOME PRODUCTS	71	23.2
4	MERCK	59	22.3
5	DOSKOCIL	389	22.2
6	BRISTOL-MYERS SQUIBB	40	21.8
7	WM. WRIGLEY JR.	308	20.6
8	TAMBRANDS	442	20.3
9	LIZ CLAIBORNE	207	19.0
10	BANDAG	470	18.0
11	ABBOTT LABORATORIES	74	17.4
12	DELUXE	263	16.7
13	THORN APPLE VALLEY	390	16.2
14	SCHERING-PLOUGH	126	16.1
15	BETZ LABORATORIES	440	15.9
16	ELI LILLY	95	15.8
17	COCA-COLA	37	15.8
18	KELLOGG	92	15.4
19	QUANTUM	363	15.1
20	LYONDELL PETROCHEMICAL	94	15.0
21	UNION TEXAS PETROLEUM	323	14.8
22	GEORGIA GULF	379	14.8
23	SMITHFIELD FOODS	322	14.3
24	MEREDITH	411	14.0
25	JOHNSON & JOHNSON	34	13.9
26	INTL. FLAVORS & FRAGR.	333	13.8
27	GERBER PRODUCTS	301	13.6
28	LOCTITE	477	13.6
29	LEVI STRAUSS ASSOC.	104	13.5
30	BROWN-FORMAN	315	13.4
31	AST RESEARCH	431	13.3
32	HUBBELL	407	13.2
33	RUBBERMAID	237	13.1
34	READER'S DIGEST ASSN.	185	13.0
35	MEDTRONIC	331	13.0
36	INTEL	106	13.0
37	UPJOHN	135	13.0
38	A. SCHULMAN	414	12.3
39	UNITED STATES SURGICAL	376	12.3
40	GENERAL MILLS	68	12.1
41	JOSTENS	372	12.1
42	P.H. GLATFELTER	476	12.1
43	COOPER TIRE & RUBBER	338	11.8
44	HON INDUSTRIES	462	11.7
45	EG&G	167	11.6
46	NEWMONT MINING	434	11.5
47	H.J. HEINZ	79	11.5
48	AMGEN	427	11.3
49	GAF	351	11.3
50	ADVANCED MICRO DEVICES	296	11.2
THE 500 MEDIAN			3.7

COMMON EQUITY

RANK		500 SALES RANK	PROFITS as % of common equity
1	LYONDELL PETROCHEMICAL	94	182.0
2	POLAROID	203	87.4
3	DOSKOCIL	389	78.7
4	LEVI STRAUSS ASSOCIATES	104	71.6
5	UST	362	55.1
6	FMC	119	52.9
7	SCHERING-PLOUGH	126	48.0
8	RALSTON PURINA	65	47.4
9	UNION TEXAS PETROLEUM	323	46.9
10	NEWMONT MINING	434	46.8
11	AVON PRODUCTS	132	46.7
12	THORN APPLE VALLEY	390	46.5
13	MERCK	59	43.2
14	GENERAL MILLS	68	42.5
15	AMERICAN HOME PRODUCTS	71	41.7
16	RELIANCE ELECTRIC	261	41.7
17	SMITHFIELD FOODS	322	40.3
18	GILLETTE	107	38.7
19	COCA-COLA	37	36.5
20	BRISTOL-MYERS SQUIBB	40	35.5
21	TAMBRANDS	442	35.5
22	CABOT	256	35.1
23	ABBOTT LABORATORIES	74	34.0
24	STERLING CHEMICALS	491	32.8
25	RHÔNE-POULENC RORER	123	32.7
26	QUANTUM	363	31.0
27	MAPCO	170	30.5
28	PHILLIPS-VAN HEUSEN	394	29.2
29	READER'S DIGEST ASSN.	185	28.6
30	GERBER PRODUCTS	301	28.6
31	KELLOGG	92	28.1
32	WM. WRIGLEY JR.	308	27.8
33	UNITED STATES SURGICAL	376	27.6
34	BANDAG	470	26.8
35	ELI LILLY	95	26.5
36	BETZ LABORATORIES	440	26.4
37	UPJOHN	135	26.3
38	JOHNSON & JOHNSON	34	26.0
39	MATTEL	241	25.7
40	GENERAL DYNAMICS	50	25.5
41	H.J. HEINZ	79	25.0
42	NALCO CHEMICAL	277	24.6
43	LIZ CLAIBORNE	207	24.5
44	DELUXE	263	24.5
45	DELL COMPUTER	490	24.3
46	MEREDITH	411	24.3
47	PHILIP MORRIS	7	24.0
48	AST RESEARCH	431	22.9
49	CPC INTERNATIONAL	84	22.5
50	CAMPBELL SOUP	82	22.4
THE 500 MEDIAN			10.2

THE 500 RANKED BY

PERFORMANCE

HIGHEST TOTAL RETURN TO INVESTORS*

1 YEAR

RANK		500 SALES RANK	1991 %
1	THORN APPLE VALLEY	390	384.6
2	DELTA WOODSIDE INDUST.	471	285.7
3	DATA GENERAL	295	266.7
4	AMGEN	427	262.9
5	ADVANCED MICRO DEVICES	296	259.0
6	DIBRELL BROTHERS	334	234.9
7	UNITED STATES SURGICAL	376	212.3
8	FRUIT OF THE LOOM	247	211.3
9	UNIVERSAL	144	206.5
10	COOPER TIRE & RUBBER	333	200.2
11	STANDARD COMMERCIAL	329	190.2
12	GOODYEAR TIRE & RUBBER	41	186.8
13	HASBRO	198	161.4
14	PREMARK INTERNATIONAL	163	142.7
15	REYNOLDS & REYNOLDS	467	138.2
16	STONE CONTAINER	98	133.3
17	CARTER-WALLACE	449	133.2
18	HARLEY-DAVIDSON	348	132.5
19	PHILLIPS-VAN HEUSEN	394	132.0
20	KELLWOOD	393	130.7
21	HUFFY	435	124.6
22	VF	152	122.9
23	ANACOMP	451	121.4
24	MEDTRONIC	331	119.6
25	MARK IV INDUSTRIES	349	119.1
26	GENERAL DYNAMICS	50	116.6
27	GEORGIA GULF	379	117.6
28	FERRO	324	116.1
29	CONSTAR INTERNATIONAL	489	113.7
30	PFIZER	69	112.6
31	MCCORMICK	269	108.1
32	MATTEL	241	107.0
33	XEROX	22	104.9
34	H.B. FULLER	374	103.6
35	GUILFORD MILLS	500	103.5
36	USG	224	99.9
37	STANDARD PRODUCTS	452	96.3
38	VALERO ENERGY	335	96.1
39	MCDONNELL DOUGLAS	21	96.0
40	GENCORP	211	95.3
41	QUANEX	472	89.9
42	MERCK	59	89.2
43	NEWELL	316	87.9
44	HILLENBRAND INDUSTRIES	299	87.8
45	RHÔNE-POULENC RORER	123	86.8
46	SARA LEE	33	86.8
47	BLACK & DECKER	109	86.1
48	STORAGE TECHNOLOGY	239	85.5
49	UST	362	84.5
50	RUBBERMAID	237	84.3
	THE 500 MEDIAN		29.5

10 YEARS

RANK		500 SALES RANK	1981-91 annual rate %
1	MARK IV INDUSTRIES	349	58.9
2	HASBRO	198	48.6
3	TYSON FOODS	120	47.3
4	SHAW INDUSTRIES	252	45.2
5	LIZ CLAIBORNE	207	43.5
6	NEWELL	316	42.3
7	COOPER TIRE & RUBBER	338	42.0
8	DIBRELL BROTHERS	334	40.9
9	CARTER-WALLACE	449	40.6
10	UST	362	38.1
11	UNITED STATES SURGICAL	376	37.3
12	A. SCHULMAN	414	37.2
13	SMITHFIELD FOODS	322	37.0
14	VALSPAR	454	35.8
15	SARA LEE	33	35.6
16	WM. WRIGLEY JR.	308	35.0
17	COCA-COLA	37	35.0
18	RUBBERMAID	237	34.8
19	PHILIP MORRIS	7	34.5
20	GILLETTE	107	34.5
21	BEMIS	310	33.5
22	P.H. GLATFELTER	476	33.5
23	CONAGRA	19	33.4
24	RHÔNE-POULENC RORER	123	33.2
25	GERBER PRODUCTS	301	32.7
26	STANDARD PRODUCTS	452	32.3
27	KELLOGG	92	32.3
28	CAMPBELL SOUP	82	32.1
29	BERKSHIRE HATHAWAY	158	32.1
30	MERCK	59	31.4
31	STANHOME	424	31.0
32	ETHYL	173	30.4
33	HELENE CURTIS INDUST.	355	30.2
34	MCCORMICK	269	30.2
35	TYCO LABORATORIES	149	29.6
36	PITNEY BOWES	137	29.6
37	ALBERTO-CULVER	367	29.6
38	GREAT LAKES CHEMICAL	278	29.5
39	HILLENBRAND INDUSTRIES	299	29.5
40	GENERAL MILLS	68	29.3
41	SCHERING-PLOUGH	126	29.2
42	PHILLIPS-VAN HEUSEN	394	29.0
43	ABBOTT LABORATORIES	74	29.0
44	TAMBRANDS	442	28.8
45	UNIVERSAL FOODS	382	28.6
46	SHERWIN-WILLIAMS	174	28.6
47	BLOCK DRUG	499	28.4
48	RALSTON PURINA	65	28.4
49	QUAKER OATS	89	28.2
50	GEO. A. HORMEL	162	28.2
	THE 500 MEDIAN		15.5

*Capital gains and losses, plus dividends

GREATEST GROWTH IN EARNINGS PER SHARE

10 YEARS

RANK		500 SALES RANK	1981-91 annual growth rate %
1	MARK IV INDUSTRIES	349	76.5
2	TYSON FOODS	120	49.9
3	NACCO INDUSTRIES	276	44.1
4	SMITHFIELD FOODS	322	42.9
5	INTERFACE	475	40.4
6	POLAROID	203	38.7
7	LIZ CLAIBORNE	207	35.2
8	INTEL	106	34.4
9	MATTEL	241	33.8
10	SEAGATE TECHNOLOGY	166	32.8
11	FAIRCHILD	461	30.3
12	A. SCHULMAN	414	29.6
13	FLEETWOOD ENTERPRISES	270	28.7
14	GRT. AMER. MGMT. & INV.	280	27.9
15	MAXXAM	189	23.3
16	HASBRO	198	23.0
17	INTERGRAPH	300	22.9
18	LOCTITE	477	22.4
19	APPLE COMPUTER	81	22.1
20	GREAT LAKES CHEMICAL	278	21.7
21	CRAY RESEARCH	370	20.2
22	MERCK	59	19.9
23	BERKSHIRE HATHAWAY	158	19.7
24	UST	362	19.6
25	STANDARD REGISTER	432	19.2
26	PRECISION CASTPARTS	494	19.1
27	UNITED STATES SURGICAL	376	18.8
28	MILLIPORE	412	18.6
29	WM. WRIGLEY JR.	308	18.5
30	P.H. GLATFELTER	476	18.4
31	DIBRELL BROTHERS	334	18.3
32	GENERAL DYNAMICS	50	18.3
33	ABBOTT LABORATORIES	74	17.6
34	RUBBERMAID	237	17.3
35	NEWELL	316	17.0
36	PHILIP MORRIS	7	17.0
37	BROWN-FORMAN	315	16.4
38	CARTER-WALLACE	449	16.3
39	BANDAG	470	16.0
40	CONAGRA	19	15.8
41	WARNER-LAMBERT	100	15.8
42	RALSTON PURINA	65	15.2
43	ANHEUSER-BUSCH	42	15.1
44	ALBERTO-CULVER	367	15.1
45	E-SYSTEMS	210	14.9
46	MOLEX	418	14.9
47	GRUMMAN	118	14.8
48	MEREDITH	411	14.7
49	RHÔNE-POULENC RORER	123	14.7
50	PITNEY BOWES	137	14.6
	THE 500 MEDIAN		7.0

CONTINUED

THE 500 RANKED BY

PERFORMANCE

HIGHEST MARKET VALUE

RANK		500 SALES RANK	$ millions 3/6/92
1	EXXON	2	69,086
2	PHILIP MORRIS	7	68,770
3	GENERAL ELECTRIC	5	66,970
4	MERCK	59	57,977
5	COCA-COLA	37	52,411
6	INTL. BUSINESS MACHINES	4	49,322
7	BRISTOL-MYERS SQUIBB	40	41,432
8	PROCTER & GAMBLE	13	33,513
9	JOHNSON & JOHNSON	34	32,029
10	E.I. DU PONT DE NEMOURS	8	29,569
11	ABBOTT LABORATORIES	74	25,402
12	PEPSICO	17	25,078
13	PFIZER	69	23,941
14	AMERICAN HOME PRODUCTS	71	23,828
15	MOBIL	6	23,699
16	GENERAL MOTORS	1	22,855
17	AMOCO	14	21,775
18	CHEVRON	10	21,367
19	ELI LILLY	95	21,105
20	MINNESOTA MINING & MFG.	29	19,805
21	HEWLETT-PACKARD	26	18,690
22	FORD MOTOR	3	17,334
23	ATLANTIC RICHFIELD	23	16,157
24	BOEING	12	15,749
25	ANHEUSER-BUSCH	42	15,645
26	DOW CHEMICAL	20	15,295
27	TEXACO	9	14,736
28	EASTMAN KODAK	18	14,093
29	KELLOGG	92	13,709
30	INTEL	106	13,010
31	SARA LEE	33	12,255
32	EMERSON ELECTRIC	64	11,908
33	SCHERING-PLOUGH	126	11,427
34	RJR NABISCO HOLDINGS	25	11,217
35	GENERAL MILLS	68	10,977
36	GILLETTE	107	10,493
37	BERKSHIRE HATHAWAY	158	9,974
38	MOTOROLA	39	9,948
39	BAXTER INTERNATIONAL	55	9,877
40	H.J. HEINZ	79	9,392
41	CAMPBELL SOUP	82	9,331
42	INTERNATIONAL PAPER	31	9,024
43	AMERICAN BRANDS	61	8,870
44	ARCHER-DANIELS-MIDLAND	60	8,819
45	WARNER-LAMBERT	100	8,702
46	MONSANTO	53	8,439
47	KIMBERLY-CLARK	76	8,244
48	AMGEN	427	8,044
49	RHÔNE-POULENC RORER	123	7,929
50	APPLE COMPUTER	81	7,659
	THE 500 MEDIAN		1,426

MOST ASSETS

RANK		500 SALES RANK	$ millions
1	GENERAL MOTORS	1	184,326
2	FORD MOTOR	3	174,429
3	GENERAL ELECTRIC	5	168,259
4	INTL. BUSINESS MACHINES	4	92,473
5	EXXON	2	87,560
6	PHILIP MORRIS	7	47,384
7	CHRYSLER	11	43,076
8	MOBIL	6	42,187
9	E.I. DU PONT DE NEMOURS	8	36,117
10	CHEVRON	10	34,636
11	RJR NABISCO HOLDINGS	25	32,131
12	XEROX	22	31,658
13	AMOCO	14	30,510
14	SHELL OIL	15	27,998
15	TEXACO	9	26,182
16	DOW CHEMICAL	20	24,727
17	ATLANTIC RICHFIELD	23	24,492
18	EASTMAN KODAK	18	24,170
19	PROCTER & GAMBLE	13	20,468
20	WESTINGHOUSE ELECTRIC	30	20,159
21	PEPSICO	17	18,775
22	TENNECO	27	18,696
23	USX	24	17,039
24	WEYERHAEUSER	57	16,928
25	OCCIDENTAL PETROLEUM	43	16,115
26	UNITED TECHNOLOGIES	16	15,985
27	BOEING	12	15,784
28	TEXTRON	63	15,737
29	AMERICAN BRANDS	61	15,116
30	INTERNATIONAL PAPER	31	14,941
31	MCDONNELL DOUGLAS	21	14,841
32	BERKSHIRE HATHAWAY	158	14,462
33	HANSON INDUSTRIES NA	70	13,222
34	CATERPILLAR	45	12,042
35	HEWLETT-PACKARD	26	11,973
36	DIGITAL EQUIPMENT	28	11,875
37	DEERE	72	11,649
38	PHILLIPS PETROLEUM	32	11,473
39	ALUMINUM CO. OF AMERICA	46	11,178
40	MINNESOTA MINING & MFG.	29	11,083
41	GEORGIA-PACIFIC	38	10,622
42	JOHNSON & JOHNSON	34	10,513
43	ALLIED-SIGNAL	36	10,382
44	COCA-COLA	37	10,222
45	TEMPLE-INLAND	177	10,069
46	ANHEUSER-BUSCH	42	9,987
47	UNOCAL	48	9,836
48	PFIZER	69	9,635
49	MERCK	59	9,499
50	COASTAL	49	9,487
	THE 500 MEDIAN		1,411

BIGGEST EMPLOYERS

RANK		500 SALES RANK	Number of employees
1	GENERAL MOTORS	1	756,300
2	INTL. BUSINESS MACHINES	4	344,553
3	PEPSICO	17	338,000
4	FORD MOTOR	3	332,700
5	GENERAL ELECTRIC	5	284,000
6	UNITED TECHNOLOGIES	16	185,100
7	PHILIP MORRIS	7	166,000
8	BOEING	12	159,100
9	EASTMAN KODAK	18	133,200
10	E.I. DU PONT DE NEMOURS	8	133,000
11	CHRYSLER	11	126,500
12	DIGITAL EQUIPMENT	28	121,000
13	WESTINGHOUSE ELECTRIC	30	113,664
14	SARA LEE	33	110,000
15	XEROX	22	109,400
16	MCDONNELL DOUGLAS	21	109,123
17	GENERAL MILLS	68	108,077
18	MOTOROLA	39	102,000
19	EXXON	2	101,000
20	GOODYEAR TIRE & RUBBER	41	99,952
21	ALLIED-SIGNAL	36	98,300
22	PROCTER & GAMBLE	13	94,000
23	HEWLETT-PACKARD	26	89,000
24	TENNECO	27	89,000
25	MINNESOTA MINING & MFG.	29	88,477
26	ROCKWELL INTERNATIONAL	35	87,000
27	JOHNSON & JOHNSON	34	82,700
28	GENERAL DYNAMICS	50	80,600
29	CONAGRA	19	74,718
30	LOCKHEED	47	72,300
31	RAYTHEON	51	71,600
32	TRW	62	71,300
33	INTERNATIONAL PAPER	31	70,500
34	EMERSON ELECTRIC	64	69,500
35	MOBIL	6	67,500
36	BAXTER INTERNATIONAL	55	65,900
37	ALUMINUM CO. OF AMERICA	46	65,600
38	TEXAS INSTRUMENTS	77	62,939
39	DOW CHEMICAL	20	62,219
40	MARTIN MARIETTA	88	60,500
41	UNISYS	58	60,300
42	HONEYWELL	83	58,182
43	RALSTON PURINA	65	57,996
44	GEORGIA-PACIFIC	38	57,000
45	RJR NABISCO HOLDINGS	25	56,000
46	CHEVRON	10	55,123
47	AMOCO	14	54,120
48	COOPER INDUSTRIES	86	53,900
49	CATERPILLAR	45	53,636
50	BRISTOL-MYERS SQUIBB	40	53,500
	THE 500 MEDIAN		10,450

CONTINUED

THE 500 BY INDUSTRY

Sorted into industries, the 500 provide a panoramic view of a tough year. Seven of 26 industries lost money. Companies on this and the following pages are included in the industry that represents the single greatest part of their industrial sales; the groupings are based on standard industrial classification codes.

Consumer goods makers did best by most measures, not surprising in a slump, when demand for life's daily necessities continues. But several—food, apparel, pharmaceuticals, tobacco, soaps and cosmetics, and beverages—are more than foul-weather friends; they rank among the top performers in ten-year return to investors (see Industry Overviews, page 287). Pharmaceuticals have a winning formula for returns on sales, assets, and shareholders' equity, heading these lists for the sixth year in a row.

Oil and gasoline are necessities for most Americans, but the Gulf war–driven swing in oil prices took the fun out of the business. Refiners led the pack in 1990 in sales and profit increases; last year, sales, profits, and return to investors dropped to the bottom of the well. You don't hear much talk of profiteering now.

RANK	COMPANY	500 SALES RANK	SALES $ mil.	SALES % change from 1990	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS % change from 1990	PROFITS Rank	PROFITS AS % OF ... SALES %	SALES Rank	ASSETS %	ASSETS Rank	COMMON EQUITY %	COMMON EQUITY Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	EARNINGS PER SHARE Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	TOTAL RETURN TO INVESTORS Rank	TOTAL RETURN TO INVESTORS 1991 %	TOTAL RETURN TO INVESTORS 1991 Rank	EMPLOYEES Number	EMPLOYEES Rank	EMPLOYEES % change from 1990
1	**AEROSPACE** (21 COMPANIES)																							
1	BOEING	12	29,314	6	6	1,567	1	13	8	5	4	10	2	19	4	12	6	25	1	7	15	159,100	2	(2)
2	UNITED TECHNOLOGIES	16	21,262	(2)	13	(1,021)	20	(236)	18	(5)	19	(6)	19	(27)	18	—		14	5	18	13	185,100	1	(4)
3	MCDONNELL DOUGLAS	21	18,718	14	3	423	3	38	3	2	14	3	14	11	7	10	9	13	7	96	2	109,123	3	(10)
4	ALLIED-SIGNAL	36	11,882	(4)	14	(273)	18	(159)	17	(2)	18	(3)	18	(9)	11	—		11	10	71	4	98,300	4	(7)
5	LOCKHEED	47	9,809	(2)	12	308	5	(8)	13	3	12	5	10	12	11	—		14	6	40	9	72,300	6	(1)
6	GENERAL DYNAMICS	50	9,548	(6)	17	505	2	—		5	5	8	3	26	1	18	3	10	11	119	1	80,600	5	(18)
7	TEXTRON	63	7,840	(1)	11	300	6	6	9	4	9	2	17	10	3	5	10	17	4	49	8	52,000	8	(4)
8	MARTIN MARIETTA	88	6,107	(1)	10	313	4	(4)	10	5	6	8	4	17	5	10	8	18	3	39	10	60,500	7	(2)
9	NORTHROP	97	5,706	4	7	201	7	(5)	11	4	10	6	7	17	6	14	5	8	15	59	6	36,200	9	(5)
10	GRUMMAN	118	4,038	(0)	9	99	9	16	6	2	13	4	11	10	14	15	4	7	16	(6)	19	23,600	10	(10)
11	SEQUA	199	2,137	(5)	15	—		—		—		—		—		—		4	18	(24)	20	17,600	11	(5)
12	GENCORP	211	1,993	11	4	32	14	(49)	16	2	17	3	13	15	9	(3)	14	10	13	95	3	14,500	12	4
13	SUNDSTRAND	230	1,709	3	8	109	8	(5)	12	6	1	6	8	16	8	1	12	10	14	32	11	12,800	13	(2)
14	ROHR	273	1,386	27	1	31	15	78,149	1	2	15	2	16	7	18	11	7	13	8	29	12	11,500	14	(4)
15	COLTEC INDUSTRIES	275	1,373	(9)	18	84	10	(37)	15	6	3	10	1	—		—		—		—		11,400	15	(8)
16	THIOKOL	286	1,270	7	5	53	11	29	5	4	8	6	9	16	7	0	13	10	12	7	16	11,500	14	—
17	ALLIANT TECHSYSTEMS	328	1,047	(16)	19	33	13	36	4	3	11	7	6	20	2	—		—		66	5	7,000	17	(7)
18	KAMAN	406	780	(6)	16	17	17	(12)	14	2	16	4	12	8	15	5	11	11	9	7	17	5,544	18	(9)
19	HENLEY GROUP	428	704	(62)	21	(661)	19	—		(94)	20	(40)	20	(149)	19	—		—		50	7	5,000	19	(52)
20	FAIRCHILD	461	612	(30)	20	28	16	1,756	2	5	7	3	15	20	3	30	1	6	17	9	14	4,500	20	(14)
21	PRECISION CASTPARTS	494	538	18	2	33	12	15	7	6	2	8	5	12	10	19	2	24	2	(5)	18	7,339	16	10
TOTAL			137,773			2,181																985,506		
MEDIAN			2,137	(1)		69		1		3		4		12		11		11		35		20,600		(5)

CONTINUED

THE 500 BY

INDUSTRY

RANK	500 SALES RANK	SALES $ mil.	SALES % change from 1990	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS % change from 1990	PROFITS Rank	PROFITS AS % OF... SALES %	SALES Rank	ASSETS %	ASSETS Rank	COMMON EQUITY %	COMMON EQUITY Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	EARNINGS PER SHARE Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	TOTAL RETURN Rank	TOTAL RETURN TO INVESTORS 1991 %	TOTAL RETURN Rank	EMPLOYEES Number	EMPLOYEES Rank	EMPLOYEES % change from 1990	EMPLOYEES Rank
2 APPAREL 12 COMPANIES																								
1 LEVI STRAUSS ASSOC.	104	4,903	15	2	357	1	42	3	7	2	14	2	72	1	—		—		—		32,100	2	4	
2 VF	152	2,989	14	4	161	3	99	1	5	5	8	3	17	4	13	3	27	4	123	4	49,200	1	22	
3 LIZ CLAIBORNE	207	2,029	16	1	223	2	8	5	11	1	19	1	24	3	35	1	43	1	43	8	7,698	10	28	
4 FRUIT OF THE LOOM	247	1,628	14	3	111	4	44	2	7	4	5	7	16	5	—		—		211	1	26,700	3	(4)	
5 HARTMARX	298	1,215	(7)	12	(38)	10	—		(3)	9	(5)	9	(13)	9	—		2	6	(2)	9	20,000	4	(9)	
6 LESLIE FAY	381	837	(3)	8	29	6	1	6	4	6	7	4	14	6	—		—		46	6	4,600	12	(4)	
7 CRYSTAL BRANDS	386	827	(6)	11	(71)	12	(347)	9	(9)	12	(11)	11	(37)	10	—		—		(35)	10	8,900	9	(5)	
8 KELLWOOD	393	811	4	7	12	8	(11)	7	2	8	3	8	6	8	12	4	28	3	131	3	14,000	6	(7)	
9 PHILLIPS-VAN HEUSEN	394	808	10	6	26	7	9	4	3	7	7	5	29	7	14	2	29	2	132	2	9,300	8	3	
10 RUSSELL	396	805	13	5	57	5	(16)	8	7	3	7	6	11	7	8	5	23	5	59	5	14,976	5	6	
11 GITANO GROUP	405	780	(4)	10	(62)	11	(877)	11	(8)	11	(13)	12	(46)	11	—		—		46	7	5,000	11	14	
12 WARNACO GROUP	479	573	(3)	9	(28)	9	(639)	10	(5)	10	(5)	10	—		—		—		—		11,500	7	(0)	
TOTAL		18,205			776																203,974			
MEDIAN		832	7		28		1		3		6		14		13		27		53		12,750		2	
3 BEVERAGES 9 COMPANIES																								
1 PEPSICO	17	19,771	11	3	1,080	2	0	5	5	5	6	5	19	5	13	4	27	3	32	4	338,000	1	10	
2 COCA-COLA	37	11,572	11	2	1,618	1	17	3	14	2	16	1	37	1	14	3	35	1	75	2	28,900	3	20	
3 ANHEUSER-BUSCH	42	10,996	2	7	940	3	12	4	9	4	9	3	21	3	15	2	27	2	46	3	44,836	2	(1)	
4 COCA-COLA ENTERPRISES	116	4,051	0	8	(82)	9	(188)	8	(2)	8	(1)	8	(6)	7	—		—		(0)	7	25,000	4	25	
5 J.E. SEAGRAM	127	3,680	8	5	537	4	(4)	6	15	1	6	4	—		—		—		—		12,295	6	3	
6 WHITMAN	161	2,866	(32)	9	98	6	406	1	3	6	5	6	21	4	(6)	5	19	4	76	1	14,703	5	(40)	
7 ADOLPH COORS	220	1,918	3	6	26	7	(34)	7	1	7	1	7	2	6	(7)	6	10	6	5	6	11,800	7	10	
8 BROWN-FORMAN	315	1,126	10	4	145	5	57	2	13	3	13	2	22	2	16	1	16	5	22	5	5,600	8	4	
9 DR PEPPER/SEVEN-UP	468	601	11	1	(38)	8	—		(6)	9	(5)	9	—		—		—		—		905	9	4	
TOTAL		56,581			4,323																482,039			
MEDIAN		3,680	8		145		8		5		6		21		13		23		32		14,703		4	
4 BUILDING MATERIALS 10 COMPANIES																								
1 PPG INDUSTRIES	96	5,725	(6)	7	276	2	(42)	3	5	2	5	2	10	2	5	2	23	3	11	6	33,700	2	(4)	
2 OWENS-ILLINOIS	122	3,852	(5)	6	(274)	9	—		(7)	7	(6)	7	(66)	6	—		—		—		34,300	1	(27)	
3 AMERICAN STANDARD	131	3,595	(1)	3	(143)	7	—		(4)	6	(4)	6	—		—		—		—		32,000	3	(3)	
4 CORNING	143	3,287	10	1	317	1	8	1	10	1	8	1	16	1	10	1	23	2	74	2	30,700	4	7	
5 OWENS-CORNING	164	2,783	(11)	9	(742)	10	(1,116)	6	(27)	10	(35)	10	—		—		23	1	40	4	17,300	6	(6)	
6 ARMSTRONG WORLD IND.	183	2,439	(4)	5	48	3	(66)	4	2	3	2	3	5	3	(2)	3	18	4	22	5	24,066	5	(4)	
7 USG	224	1,840	(12)	10	(161)	8	—		(9)	8	(10)	9	—		—		6	5	100	1	11,800	7	(7)	
8 LAFARGE	257	1,569	(2)	4	(50)	5	(201)	5	(3)	5	(3)	5	(6)	4	—		—		(5)	7	8,300	8	9	
9 ANCHOR GLASS	307	1,167	1	2	22	4	6	2	2	4	2	4	—		—		—		—		7,300	9	—	
10 HOLNAM	342	979	(9)	8	(95)	6	—		(10)	9	(7)	8	(20)	5	—		—		54	3	5,785	10	1	
TOTAL		27,237			(802)																205,251			
MEDIAN		2,611	(5)		(73)		(54)		(4)		(4)		(1)		5		23		40		20,683		(4)	
5 CHEMICALS 46 COMPANIES																								
1 E.I. DU PONT DE NEMOURS	8	38,031	(5)	33	1,403	1	(39)	29	4	23	4	23	8	24	1	16	20	9	32	19	133,000	1	(8)	
2 DOW CHEMICAL	20	19,305	(3)	31	942	2	(32)	23	5	19	4	24	10	23	6	12	17	15	19	28	62,219	2	0	
3 MONSANTO	53	8,929	(1)	27	296	4	(46)	30	3	25	3	26	8	25	(2)	17	19	11	45	16	39,281	4	(4)	
4 UNION CARBIDE	66	7,346	(4)	32	(28)	40	(109)	35	(0)	37	(0)	37	(1)	31	—		11	22	30	20	16,705	11	(56)	
5 W.R. GRACE	73	6,949	3	19	219	7	8	9	3	29	4	25	11	21	(4)	18	12	21	72	6	49,305	3	(5)	
6 HOECHST CELANESE	75	6,856	17	3	172	10	(14)	20	3	31	3	30	—		—		—		—		31,600	5	36	
7 MILES	85	6,197	5	14	101	20	(32)	24	2	33	2	33	—		—		—		—		27,607	7	(3)	
8 LYONDELL PETROCHEM.	94	5,757	(12)	41	222	6	(38)	27	4	22	15	2	182	1	—		—		67	8	2,270	38	1	
9 AMERICAN CYANAMID	101	5,040	5	16	359	3	2	16	7	14	7	15	14	14	6	10	20	7	26	24	31,587	6	(1)	
10 BASF	103	4,962	(8)	37	(48)	42	—		(1)	40	(1)	41	—		—		—		—		18,766	9	(3)	
11 FMC	119	3,932	5	15	164	11	6	11	4	21	6	18	53	2	1	15	28	5	50	13	23,150	8	(3)	
12 AIR PRODS. & CHEM.	155	2,950	1	23	249	5	8	8	8	7	6	17	14	16	7	9	17	14	38	17	14,600	13	4	
13 HERCULES	157	2,929	(9)	38	95	22	(1)	17	3	26	3	27	5	27	(4)	19	14	18	58	11	17,324	10	(13)	

CONTINUED

THE 500 BY

INDUSTRY

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	Rank	PROFITS $ mil.	Rank	PROFITS % change from 1990	Rank	PROFITS AS % OF... SALES %	Rank	ASSETS %	Rank	COMMON EQUITY %	Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	Rank	1991 %	Rank	EMPLOYEES Number	Rank	% change from 1990
14	ROHM & HAAS	165	2,775	(2)	29	163	12	(21)	21	6	16	6	19	13	17	7	7	19	10	28	22	12,900	16	(1)
15	ETHYL	173	2,575	2	20	207	9	(11)	19	8	11	3	29	17	10	12	5	30	2	22	27	6,000	24	5
16	SHERWIN-WILLIAMS	174	2,552	12	6	128	17	5	13	5	18	8	12	15	12	14	3	29	4	46	15	16,682	12	2
17	QUANTUM CHEMICAL	178	2,486	(5)	34	(123)	44	(682)	40	(5)	44	(4)	44	—		—		5	27	1	35	8,800	18	(11)
18	B.F. GOODRICH	179	2,472	1	25	(81)	43	(159)	39	(3)	42	(4)	43	(8)	34	—		12	20	17	29	14,415	14	(2)
19	ENGELHARD	184	2,436	(17)	44	88	23	25	3	4	24	7	16	12	20	—		10	23	76	5	6,400	23	(6)
20	OLIN	191	2,290	(12)	42	(13)	38	(115)	36	(1)	38	(1)	38	(3)	33	—		10	24	12	32	14,400	15	(5)
21	MORTON INTERNATIONAL	219	1,921	16	4	138	15	3	15	7	13	7	14	13	19	—		—		30	21	10,200	17	5
22	DOW CORNING	222	1,877	9	10	153	14	(11)	18	8	9	7	13	14	13	—		—		—		8,300	19	4
23	CABOT	256	1,580	(6)	35	127	18	79	1	8	10	9	10	35	3	5	13	7	26	25	25	5,300	27	(12)
24	LUBRIZOL	264	1,485	1	22	124	19	(35)	25	8	8	11	6	16	11	4	14	14	17	23	26	5,299	28	3
25	NALCO CHEMICAL	277	1,356	10	9	138	16	5	12	10	5	10	7	25	6	6	11	17	16	51	12	6,832	22	17
26	GREAT LAKES CHEMICAL	278	1,348	21	1	157	13	12	7	12	3	10	9	17	9	22	2	30	3	81	4	5,500	26	—
27	IMC FERTILIZER GROUP	313	1,133	2	21	96	21	16	5	8	6	6	20	14	15	—		—		66	9	6,000	24	—
28	FERRO	324	1,066	(6)	36	5	35	(75)	33	0	35	1	35	1	29	(23)	21	19	13	116	2	7,306	21	(10)
29	INSPIRATION RESOURCES	325	1,062	(25)	45	(152)	45	—		(14)	45	(30)	45	(80)	35	—		—		34	18	2,300	37	(51)
30	DEXTER	347	944	3	18	(7)	37	(117)	37	(1)	39	(1)	40	(2)	32	—		12	19	7	33	5,600	25	2
31	GAF	351	926	(1)	26	210	8	—		23	1	11	5	—		—		—		—		4,074	30	(2)
32	H.B. FULLER	374	855	8	12	28	29	31	2	3	27	5	21	13	18	7	8	20	8	104	3	5,600	25	—
33	NL INDUSTRIES	377	842	(14)	43	(16)	39	(118)	38	(2)	41	(1)	39	—		—		(15)	29	5	34	3,500	33	3
34	GEORGIA GULF	379	838	(10)	39	61	26	(36)	26	7	12	15	3	—		—		—		118	1	1,103	42	3
35	UCC INVESTORS HOLDING	383	832	3	17	(32)	41	—		(4)	43	(3)	42	—		—		—		—		2,800	35	—
36	WELLMAN	395	806	(3)	30	45	27	(26)	22	6	17	5	22	10	22	—		—		27	23	3,400	34	—
37	CF INDUSTRIES	398	803	(11)	40	—		—		—		—		—		—		—		—		1,474	40	1
38	VALHI	408	766	(58)	46	25	31	(67)	31	3	28	2	32	6	26	—		8	25	16	30	8,100	20	(54)
39	BAROID	425	708	17	2	1	36	(97)	34	0	36	0	36	0	30	—		—		(12)	36	4,800	29	2
40	VISTA CHEMICAL	426	705	(2)	28	20	32	(69)	32	3	30	3	28	—		—		—		—		1,762	39	(5)
41	BETZ LABORATORIES	440	671	11	7	76	24	15	6	11	4	16	1	26	5	10	6	19	12	47	14	3,980	31	8
42	VALSPAR	454	633	11	8	28	30	4	14	4	20	9	11	19	8	14	4	36	1	66	10	2,530	36	1
43	LOCTITE	477	575	1	24	72	25	7	10	13	2	14	4	20	7	22	1	27	6	70	7	3,587	32	(3)
44	ARCADIAN	486	558	16	5	12	33	—		2	32	2	31	—		—		—		—		991	43	—
45	STERLING CHEMICALS	491	543	7	13	37	28	(38)	28	7	15	10	8	33	4	—		—		(18)	37	950	44	(1)
46	FIRST MISSISSIPPI	492	539	8	11	5	34	21	4	1	34	1	34	3	28	(15)	20	(2)	28	13	31	1,293	41	(1)
TOTAL			162,140			5,865																859,592		
MEDIAN			1,532	1		88		(18)		4		4		13		6		17		32		6,616		(1)

6 COMPUTERS, OFFICE EQUIPMENT 25 COMPANIES

1	IBM	4	64,792	(6)	20	(2,827)	24	(147)	18	(4)	20	(3)	20	(8)	19	—		9	6	(17)	19	344,553	1	(8)
2	HEWLETT-PACKARD	26	14,541	10	12	755	1	2	9	5	11	6	10	10	11	9	7	12	3	81	3	89,000	3	(3)
3	DIGITAL EQUIPMENT	28	14,024	7	13	(617)	22	(930)	20	(4)	21	(5)	21	(8)	20	—		2	9	1	15	121,600	2	(2)
4	UNISYS	58	8,696	(14)	23	(1,393)	23	—		(16)	23	(17)	23	(347)	22	—		(6)	13	65	5	60,300	4	(20)
5	APPLE COMPUTER	81	6,309	14	10	310	2	(35)	13	5	13	9	6	18	4	22	3	18	2	32	9	14,432	8	17
6	PITNEY BOWES	137	3,417	5	15	295	3	38	6	9	3	5	14	16	6	15	5	30	1	63	6	29,421	6	(2)
7	COMPAQ COMPUTER	145	3,271	(10)	21	131	5	(71)	16	4	14	5	13	7	16	—		—		(53)	23	10,000	13	(12)
8	SUN MICROSYSTEMS	146	3,260	31	5	190	4	71	4	6	8	8	7	16	7	—		—		33	8	12,480	9	9
9	SEAGATE TECHNOLOGY	166	2,691	11	11	67	12	(42)	14	3	15	4	15	9	14	33	1	2	10	(22)	21	42,866	5	13
10	WANG LABORATORIES	201	2,127	(19)	24	(386)	21	—		(18)	24	(27)	24	(731)	23	—		(16)	14	10	13	18,100	7	(10)
11	TANDEM COMPUTERS	217	1,940	3	16	35	14	(71)	15	2	16	2	17	3	17	(1)	9	(2)	11	(3)	16	11,167	10	2
12	AMDAHL	233	1,702	(23)	25	11	18	(94)	17	1	18	0	18	1	18	(11)	10	9	5	12	12	9,400	15	8
13	STORAGE TECHNOLOGY	239	1,653	41	4	93	7	34	7	6	10	5	11	11	10	(21)	11	(20)	15	85	2	10,100	12	11
14	CONNER PERIPHERALS	248	1,627	20	8	92	8	(29)	12	6	9	7	9	13	9	—		—		(33)	22	8,284	18	(14)
15	DR HOLDINGS (DEL.)	272	1,391	(14)	22	—		—		—		—		—		—		—		—		6,750	19	(22)
16	DATA GENERAL	295	1,237	1	17	86	9	—		7	5	9	5	17	5	1	8	(5)	12	267	1	8,500	16	(20)
17	INTERGRAPH	300	1,205	14	9	71	11	14	8	6	7	7	8	9	11	23	2	11	4	29	11	10,300	11	7
18	SCI SYSTEMS	314	1,129	(5)	19	13	17	447	1	1	17	2	16	7	15	11	6	3	8	(21)	20	9,762	14	(9)
19	QUANTUM	363	878	97	1	74	10	56	5	8	4	15	1	31	1	—		—		(8)	17	1,445	25	89
20	MAXTOR	365	875	75	2	(45)	20	(340)	19	(5)	22	(10)	22	(33)	21	—		—		5	14	8,300	17	77
21	CRAY RESEARCH	370	862	5	14	113	6	0	11	13	1	10	4	15	8	20	4	9	7	29	10	5,395	21	11
22	AST RESEARCH	431	697	29	7	65	13	85	3	9	2	13	2	23	3	—		—		(10)	18	2,960	22	28
23	BELL & HOWELL	457	625	1	18	(5)	19	—		(1)	19	(1)	19	—		—		—		—		5,800	20	(2)

CONTINUED

THE 500 BY

INDUSTRY

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	Rank	PROFITS $ mil.	Rank	PROFITS % change from 1990	Rank	PROFITS AS % OF... SALES %	Rank	ASSETS %	Rank	COMMON EQUITY %	Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	Rank	1991 %	Rank	EMPLOYEES Number	Rank	% change from 1990
24	SILICON GRAPHICS	488	557	31	6	33	15	2	10	6	6	5	12	10	12	—		—		68	4	2,568	23	22
25	DELL COMPUTER	490	546	41	3	27	16	432	2	5	12	11	3	24	7	—		—		39	7	2,100	24	72
TOTAL			140,054			(2,812)																844,983		
MEDIAN			1,653	7		66		1		5		5		10		11		3		12		10,000		2

7 ELECTRONICS, ELECTRICAL EQUIPMENT 39 COMPANIES

1	GENERAL ELECTRIC	5	60,236	3	18	2,636	1	(39)	18	4	13	2	25	12	15	5	13	22	3	37	18	284,000	1	(5)
2	WESTINGHOUSE ELECTRIC	30	12,794	(1)	28	(1,086)	39	(505)	26	(8)	37	(5)	34	(29)	35	—		16	11	(33)	33	113,664	2	(2)
3	ROCKWELL INTERNATIONAL	35	12,028	(3)	34	601	4	(4)	13	5	12	6	11	14	10	10	7	17	8	2	30	87,000	4	(15)
4	MOTOROLA	39	11,341	4	14	454	6	(9)	14	4	16	5	14	10	20	6	12	15	13	26	22	102,000	3	(3)
5	RAYTHEON	51	9,356	1	23	592	5	6	6	6	9	10	6	18	5	9	9	12	16	22	23	71,600	5	(7)
6	EMERSON ELECTRIC	64	7,427	(2)	30	632	3	3	11	9	5	10	5	19	8	7	10	18	7	50	6	69,500	6	(6)
7	TEXAS INSTRUMENTS	77	6,812	3	17	(409)	38	—		(6)	36	(8)	37	(28)	34	—		3	26	(17)	32	62,939	7	(10)
8	WHIRLPOOL	78	6,770	2	21	170	9	136	1	3	22	3	22	11	18	4	15	16	9	71	4	37,886	11	5
9	COOPER INDUSTRIES	86	6,163	(1)	29	393	7	9	5	6	8	6	13	10	19	1	18	12	15	42	12	53,900	8	(6)
10	NORTH AMERICAN PHILIPS	91	6,065	(1)	27	8	29	—		0	29	0	29	—		—		—		—		43,300	10	(11)
11	LITTON INDUSTRIES	99	5,313	1	24	64	16	(64)	21	1	26	1	26	5	23	(9)	21	6	24	13	27	52,300	9	3
12	INTEL	106	4,779	16	3	819	2	26	3	17	1	13	2	19	4	34	2	21	4	27	20	25,092	16	2
13	TELEDYNE	147	3,218	(14)	39	(25)	33	(127)	24	(1)	30	(1)	30	(6)	30	—		5	25	38	16	29,400	14	(11)
14	AMP	150	3,095	2	22	260	8	(10)	15	8	7	9	8	14	1	7	11	16	10	38	15	25,000	17	1
15	HARRIS	151	3,081	(1)	26	19	26	(85)	23	1	28	1	28	2	27	(17)	22	(1)	28	41	13	30,700	12	(8)
16	MAYTAG	153	2,971	(3)	33	79	14	(20)	16	3	20	3	20	8	21	1	17	15	12	50	7	22,533	19	(7)
17	LORAL	200	2,136	63	1	90	13	15	4	4	14	4	17	13	12	14	5	11	19	20	24	23,750	18	87
18	E-SYSTEMS	210	1,998	10	7	110	11	28	2	5	10	10	4	15	8	15	3	14	14	12	28	18,622	21	1
19	NATL. SEMICONDUCTOR	229	1,711	2	19	(151)	37	—		(9)	38	(13)	38	(25)	33	—		0	27	49	8	29,800	13	(9)
20	GENERAL SIGNAL	251	1,620	(9)	38	54	18	—		3	17	5	15	11	17	(4)	19	7	22	46	10	14,700	23	(7)
21	NATL. SERVICE IND.	254	1,602	(3)	32	32	23	(68)	22	2	24	3	19	5	24	(4)	20	18	6	(6)	31	20,900	20	(4)
22	DURACELL INTERNATIONAL	260	1,524	14	4	(34)	34	(690)	28	(2)	33	(2)	31	(5)	29	—		—		—		7,900	31	3
23	RELIANCE ELECTRIC	261	1,516	(2)	31	34	22	(29)	17	2	23	3	21	42	1	—		—		—		14,118	24	1
24	VARIAN ASSOCIATES	274	1,381	4	16	58	17	—		4	15	7	10	13	14	—		10	20	15	25	9,300	29	(9)
25	ZENITH ELECTRONICS	282	1,322	(7)	36	(52)	35	—		(4)	35	(8)	36	(17)	31	—		(4)	29	11	29	27,700	15	3
26	RAYCHEM	291	1,250	10	8	(23)	32	—		(2)	32	(2)	32	(4)	28	—		7	23	73	3	11,406	25	3
27	ADVANCED MICRO DEV.	296	1,227	14	5	145	10	—		12	2	11	3	17	9	11	6	12	17	259	1	11,254	27	(6)
28	MAGNETEK	312	1,134	7	9	35	21	4	9	3	18	4	16	22	2	—		—		40	14	15,000	22	3
29	WESTERN DIGITAL	339	986	(8)	37	(134)	36	(655)	27	(14)	39	(22)	39	(72)	36	—		(9)	30	(46)	34	6,740	33	(4)
30	PITTWAY	340	984	4	15	26	25	6	7	3	21	3	18	6	22	—		—		46	9	8,300	30	(2)
31	MARK IV INDUSTRIES	349	937	2	20	26	24	(64)	20	3	19	2	23	14	9	76	1	59	1	119	2	11,400	26	25
32	SUNBEAM/OSTER	356	886	1	25	48	20	(59)	19	5	11	6	12	—		—		—		—		11,000	28	6
33	HUBBELL	407	768	5	13	91	12	5	8	12	3	13	5	17	6	9	8	24	2	38	17	5,532	35	(0)
34	EXIDE	413	743	7	10	(12)	30	—		(2)	31	(2)	33	—		—		—		—		5,700	34	(0)
35	MOLEX	418	716	19	2	65	15	4	10	9	4	9	7	12	16	15	4	20	5	54	5	6,956	32	3
36	LSI LOGIC	422	713	7	11	8	27	—		1	27	1	27	3	25	—		—		30	19	4,241	39	(4)
37	HARMAN INTL. INDUS.	473	587	5	12	(20)	31	(241)	25	(3)	34	(5)	35	(24)	32	—		—		15	26	4,438	38	(8)
38	THOMAS & BETTS	478	573	(4)	35	48	19	0	12	8	6	8	9	13	13	3	16	11	18	27	21	4,700	37	(4)
39	ANALOG DEVICES	493	539	11	6	8	28	—		2	25	2	24	2	26	4	14	9	21	43	11	5,200	36	(9)
TOTAL			188,298			5,656																1,389,471		
MEDIAN			1,620	2		48		(9)		3		3		11		7		12		38		20,900		(4)

8 FOOD 47 COMPANIES

1	PHILIP MORRIS	7	48,109	9	10	3,006	1	(15)	25	6	10	6	21	24	10	17	4	35	5	60	7	166,000	1	(1)
2	CONAGRA	19	19,505	26	1	311	10	34	5	2	29	3	28	20	15	16	5	33	6	46	12	74,718	4	28
3	SARA LEE	33	12,456	7	15	535	4	14	15	4	15	7	19	20	17	14	10	36	3	87	3	110,000	2	2
4	ARCHER-DANIELS	60	8,568	9	11	467	6	(3)	24	5	13	7	17	12	26	7	22	21	24	54	10	13,049	17	10
5	RALSTON PURINA	65	7,394	4	26	392	8	(1)	22	5	14	8	14	47	2	15	6	28	13	12	26	57,996	5	3
6	BORDEN	67	7,235	(5)	43	295	11	(19)	28	4	16	5	25	15	23	8	19	26	20	13	25	44,400	9	(4)
7	GENERAL MILLS	68	7,153	10	7	473	5	24	6	7	8	12	7	42	4	11	17	29	11	54	9	108,077	3	11
8	H.J. HEINZ	79	6,682	9	8	568	3	13	16	9	4	12	8	25	9	13	11	28	16	14	22	34,100	11	(9)
9	CAMPBELL SOUP	82	6,230	0	35	402	7	9,025	1	6	9	10	10	22	12	12	15	32	9	48	11	44,934	8	(10)
10	CPC INTERNATIONAL	84	6,200	7	17	373	9	(0)	21	6	11	8	15	23	11	8	21	22	22	12	27	35,000	10	(1)

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THE 500 BY

INDUSTRY

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS % change from 1990	PROFITS Rank	PROFITS AS % OF... SALES %	SALES Rank	ASSETS %	ASSETS Rank	COMMON EQUITY %	COMMON EQUITY Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	EARNINGS PER SHARE Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	1981-91 Rank	TOTAL RETURN TO INVESTORS 1991 %	1991 Rank	EMPLOYEES Number	EMPLOYEES Rank	EMPLOYEES % change from 1990
11	QUAKER OATS	89	6,101	6	20	206	13	22	7	3	18	7	18	22	13	8	20	28	14	56	8	20,900	12	(26)
12	KELLOGG	92	5,787	11	6	606	2	21	9	10	2	15	4	28	2	14	9	32	8	76	4	17,017	14	(1)
13	CHIQUITA BRANDS	110	4,627	8	14	128	16	37	4	3	24	4	27	13	25	12	14	27	17	27	16	50,000	6	9
14	TYSON FOODS	120	3,922	2	31	145	14	21	8	4	17	5	24	18	8	50	1	47	1	30	14	47,000	7	7
15	FARMLAND INDUSTRIES	129	3,652	8	13	—		—		—		—		—		—		—		—		7,554	28	13
16	AGWAY	134	3,490	(3)	41	—		—		—		—		—		—		—		—		14,600	15	(4)
17	HERSHEY FOODS	160	2,902	7	18	220	12	2	20	8	6	9	11	16	21	10	18	26	21	21	19	14,000	16	10
18	GEO. A. HORMEL	162	2,836	6	22	86	18	12	17	3	21	10	9	15	14	12	13	28	15	13	23	8,300	25	—
19	LAND O'LAKES	181	2,458	2	33	—		—		—		—		—		—		—		—		5,344	31	(11)
20	INTL. MULTIFOODS	195	2,192	5	23	35	24	39	3	2	28	4	26	11	28	2	25	17	26	22	18	9,140	23	(0)
21	DEAN FOODS	197	2,159	9	12	73	20	18	11	3	19	9	12	17	19	13	12	26	19	16	21	9,600	21	8
22	CENTRAL SOYA	209	2,000	3	30	25	26	7	19	1	31	3	29	—		—		—		—		4,060	34	13
23	MID-AMERICA DAIRYMEN	226	1,742	(6)	45	—		—		—		—		—		—		—		—		9,200	22	130
24	DEL MONTE	267	1,435	—		(27)	34	—		(2)	34	(2)	34	(32)	32	—		—		—		19,500	13	—
25	MCCORMICK	269	1,428	7	16	81	19	17	13	6	12	8	16	21	14	12	16	30	10	108	2	7,700	26	3
26	GOLD KIST	287	1,268	6	19	—		—		—		—		—		—		—		—		12,000	19	14
27	GERBER PRODUCTS	301	1,203	5	24	113	17	20	10	9	3	14	6	29	6	15	7	33	7	42	13	12,025	18	(3)
28	SAVANNAH FOODS & IND.	302	1,203	(1)	38	38	23	(21)	29	3	20	7	20	17	20	5	23	27	18	(31)	30	2,019	41	7
29	WM. WRIGLEY JR.	308	1,160	3	29	129	15	10	18	11	1	21	2	28	8	18	1	35	4	61	6	6,250	29	7
30	INTERSTATE BAKERIES	317	1,107	0	34	(8)	33	—		(1)	33	(1)	33	—		—		—		—		14,000	16	1
31	SMITHFIELD FOODS	322	1,072	26	2	29	25	306	2	3	25	14	5	40	3	43	2	37	2	70	5	5,000	32	19
32	DOMINO SUGAR	326	1,058	(3)	40	—		—		—		—		—		—		—		—		4,252	33	44
33	OCEAN SPRAY	346	946	3	28	—		—		—		—		—		—		—		—		2,200	39	—
34	AG PROCESSING	369	866	2	32	—		—		—		—		—		—		—		—		779	46	21
35	UNIVERSAL FOODS	382	834	(1)	37	58	22	17	12	7	7	9	13	20	4	14	8	29	12	27	15	5,924	30	6
36	FLOWERS INDUSTRIES	384	831	(1)	39	24	27	(18)	27	3	23	6	23	12	27	5	24	19	25	24	17	8,900	24	6
37	TRI VALLEY GROWERS	388	825	13	5	—		—		—		—		—		—		—		—		2,640	37	(27)
38	DOSKOCIL	389	820	(11)	46	69	21	—		8	5	22	1	79	1	—		—		—		3,400	35	(29)
39	THORN APPLE VALLEY	390	818	22	3	20	29	—		2	26	16	3	47	2	—		22	23	385	1	3,000	36	3
40	PILGRIM'S PRIDE	404	788	9	9	12	30	(21)	30	2	30	3	30	11	29	—		—		19	20	10,550	20	34
41	HUDSON FOODS	409	765	15	4	9	32	(2)	23	1	32	2	32	6	31	—		—		11	28	7,659	27	4
42	IMPERIAL HOLLY	417	718	(0)	36	21	28	16	14	3	29	6	27	15	32	—		—		(12)	29	1,870	43	1
43	RICELAND FOODS	450	641	4	25	—		—		—		—		—		—		—		—		2,100	40	(6)
44	PRAIRIE FARMS DAIRY	453	638	(3)	42	—		—		—		—		—		—		—		—		1,843	44	(3)
45	SUN-DIAMOND GROWERS	466	603	4	27	—		—		—		—		—		—		—		—		2,500	38	—
46	AMER. MAIZE-PROD.	497	534	6	21	11	31	(17)	26	2	27	2	31	7	30	(3)	26	12	27	13	24	2,009	42	(7)
47	WISCONSIN DAIRIES COOP.	498	533	(5)	44	—		—		—		—		—		—		—		—		925	45	5
TOTAL			195,494			8,923																1,044,034		
MEDIAN			1,435	5		100		13		4		7		20		12		28		27		9,020		3

9 FOREST PRODUCTS 33 COMPANIES

1	INTERNATIONAL PAPER	31	12,703	(2)	14	184	2	(68)	21	1	21	1	22	3	21	(11)	17	18	12	36	17	70,500	1	2
2	GEORGIA-PACIFIC	38	11,524	(9)	31	(142)	30	(139)	25	(1)	26	(1)	28	(5)	28	—		14	19	49	10	57,000	2	(10)
3	WEYERHAEUSER	57	8,702	(4)	17	(162)	31	(141)	26	(2)	28	(1)	26	(5)	27	—		8	22	32	18	38,669	4	(5)
4	KIMBERLY-CLARK	76	6,830	6	1	508	1	18	3	7	4	9	3	20	3	11	3	25	4	25	21	41,286	3	3
5	STONE CONTAINER	98	5,399	(6)	24	(49)	25	(151)	28	(1)	25	(1)	25	(3)	26	—		22	7	133	1	31,800	5	(2)
6	SCOTT PAPER	102	5,000	(7)	27	(70)	26	(147)	27	(1)	27	(1)	27	(4)	26	—		19	10	(6)	28	29,088	7	(6)
7	CHAMPION INTERNATIONAL	105	4,786	(7)	26	40	19	(82)	23	1	22	0	23	0	24	(22)	18	5	24	(5)	27	27,500	8	(4)
8	MEAD	112	4,579	(5)	19	7	23	(82)	24	0	24	0	24	0	32	(25)	19	15	16	38	15	21,600	9	—
9	JAMES RIVER (VA.)	114	4,562	(16)	33	78	10	0	5	2	20	1	20	2	33	(2)	13	11	21	(22)	30	29,100	6	(12)
10	BOISE CASCADE	117	4,044	(3)	16	(79)	28	(206)	29	(2)	29	(2)	29	(7)	29	—		5	23	(9)	29	19,619	11	(1)
11	UNION CAMP	154	2,967	4	4	125	5	(46)	19	4	14	3	12	6	11	(2)	14	16	14	44	11	20,667	10	4
12	JEFFERSON SMURFIT	156	2,942	1	10	(77)	27	(454)	30	(3)	30	(3)	30	—		—		—		—		18,100	12	3
13	TEMPLE-INLAND	177	2,507	4	5	138	3	(40)	16	6	8	1	21	9	8	—		—		66	6	14,500	13	6
14	WESTVACO	188	2,322	(5)	21	137	4	(27)	10	6	5	4	8	8	10	2	10	18	11	53	9	14,440	14	(4)
15	MANVILLE	202	2,100	(8)	28	—		—		—		—		—		—		(23)	25	70	3	1,600	33	(91)
16	WILLAMETTE INDUSTRIES	208	2,005	5	2	46	16	(65)	20	2	18	2	14	5	16	5	8	17	13	43	12	11,350	17	10
17	LOUISIANA-PACIFIC	228	1,714	(6)	22	56	12	(39)	15	3	16	3	13	5	15	(4)	15	14	17	67	4	12,500	16	(11)
18	SONOCO PRODUCTS	231	1,704	2	8	95	6	88	1	6	7	8	4	17	5	10	4	22	6	9	24	13,892	15	(5)
19	FEDERAL PAPER BOARD	266	1,435	5	3	82	8	(30)	11	6	6	3	9	8	9	5	9	20	9	61	7	7,000	21	(10)

CONTINUED

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RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	Rank	PROFITS $ mil.	Rank	PROFITS % change from 1990	Rank	PROFITS AS % OF ... SALES %	Rank	ASSETS %	Rank	COMMON EQUITY %	Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	Rank	1991 %	Rank	EMPLOYEES Number	Rank	% change from 1990
20	BOWATER	285	1,291	(7)	25	46	17	(42)	17	4	15	2	18	4	18	—		—		9	23	7,200	20	41
21	POTLATCH	294	1,242	(2)	15	56	13	(43)	18	4	12	3	11	6	12	2	11	14	18	37	16	7,400	19	(4)
22	BEMIS	310	1,142	1	9	53	14	4	4	5	9	7	5	16	6	13	2	34	1	42	13	7,796	18	(2)
23	FORT HOWARD	311	1,138	(4)	18	(111)	29	—		(10)	31	—		—		—		—		—		6,200	22	3
24	FIRST BRANDS	321	1,073	(1)	13	46	15	(7)	6	4	13	6	7	20	3	—		—		28	19	3,693	28	2
25	ITT RAYONIER	343	979	(12)	32	44	18	(33)	12	5	11	3	10	6	13	—		—		—		3,000	32	(3)
26	CONSOLIDATED PAPERS	360	882	(9)	29	91	7	(36)	14	10	3	6	6	10	7	5	6	23	5	(1)	25	4,792	25	2
27	CHESAPEAKE	378	841	(0)	12	15	22	(8)	7	2	19	2	17	5	14	(6)	16	14	20	82	2	5,039	24	(1)
28	GAYLORD CONTAINER	416	724	1	11	(180)	32	—		(25)	32	(19)	31	—		—		—		(4)	26	4,150	26	1
29	TAMBRANDS	442	666	4	6	79	9	(19)	9	12	2	20	1	35	1	7	5	29	3	58	8	3,800	27	(7)
30	LONGVIEW FIBRE	447	645	(6)	23	17	21	(73)	22	3	17	2	16	4	17	5	7	16	15	39	14	3,400	29	(1)
31	ST. JOE PAPER	465	608	(5)	20	28	20	(33)	13	5	10	2	15	3	20	—		—		10	22	5,350	23	(2)
32	P.H. GLATFELTER	476	577	(9)	30	76	11	(14)	8	13	1	12	2	17	4	18	1	33	2	26	20	3,393	30	(4)
33	PLY GEM	485	562	3	7	4	24	27	2	1	23	1	19	4	19	(1)	12	20	8	66	5	3,300	31	10
TOTAL			100,193			1,192																548,724		
MEDIAN			1,714	(4)		46		(40)		3		2		5		2		17		38		11,350		(2)

10 FURNITURE 10 COMPANIES

1	JOHNSON CONTROLS	113	4,566	1	4	95	1	3	3	2	6	3	6	8	5	2	6	16	6	50	2	42,700	1	(2)
2	AVERY DENNISON	175	2,545	(2)	6	63	2	968	1	2	5	4	5	8	6	3	5	16	5	22	7	17,000	3	(11)
3	INTERCO	255	1,597	(28)	10	(176)	10	(601)	8	(11)	9	(15)	10	—		—		(15)	8	81	1	22,000	2	(24)
4	LSS HOLDINGS	319	1,085	2	3	(33)	8	—		(3)	8	(5)	8	(543)	8	—		—		—		10,575	4	5
5	LEGGETT & PLATT	320	1,082	(1)	5	39	3	34	2	4	4	6	4	12	2	8	3	21	2	48	3	10,400	5	(11)
6	HERMAN MILLER	358	884	2	2	14	7	(70)	7	2	7	3	7	4	5	(8)	7	11	7	8	8	5,556	9	(4)
7	SEALY HOLDINGS	458	624	(3)	7	(73)	9	—		(12)	10	(9)	9	—		—		—		—		4,400	10	(2)
8	HON INDUSTRIES	462	612	(8)	8	33	4	(24)	5	5	1	12	1	22	1	9	2	18	4	36	5	5,599	8	(8)
9	LA-Z-BOY CHAIR	464	609	2	1	23	6	(17)	4	4	3	6	3	10	4	9	1	27	1	48	4	7,828	6	(3)
10	KIMBALL INTERNATIONAL	483	565	(9)	9	30	5	(31)	6	5	2	8	2	10	3	7	4	18	3	28	6	7,559	7	(5)
TOTAL			14,170			15																133,617		
MEDIAN			983	(1)		27		(21)		2		3		9		7		17		42		9,114		(4)

11 INDUSTRIAL AND FARM EQUIPMENT 39 COMPANIES

1	TENNECO	27	14,035	(6)	25	(732)	37	(230)	26	(5)	34	(4)	32	(27)	30	—		6	20	(29)	34	89,000	1	(3)
2	CATERPILLAR	45	10,182	(12)	32	(404)	36	(292)	27	(4)	32	(3)	31	(10)	29	—		0	29	(4)	30	53,636	2	(8)
3	DEERE	72	7,055	(10)	30	(20)	29	(105)	22	(0)	26	(0)	25	(1)	24	—		6	21	6	25	36,469	4	(5)
4	DRESSER INDUSTRIES	108	4,702	4	11	147	3	(20)	12	3	14	5	9	8	12	(6)	17	5	23	0	27	31,800	5	(4)
5	BLACK & DECKER	109	4,637	(5)	22	53	8	4	6	1	21	1	23	6	20	(6)	18	4	24	86	1	38,600	3	(14)
6	INGERSOLL-RAND	133	3,586	(4)	21	151	3	(19)	11	4	6	5	8	9	10	(3)	10	14	8	52	9	31,117	6	(8)
7	CUMMINS ENGINE	138	3,406	(2)	15	(14)	28	—		(0)	28	(1)	28	(4)	28	—		8	16	48	10	22,900	8	(8)
8	BAKER HUGHES	159	2,912	11	6	173	1	22	3	6	7	6	6	11	8	(9)	19	(3)	30	(23)	32	21,300	9	2
9	PARKER HANNIFIN	182	2,441	(3)	19	59	5	(47)	20	2	16	3	16	6	16	(4)	14	11	14	33	13	27,793	7	(9)
10	DOVER	194	2,196	(2)	16	128	4	(18)	10	6	8	9	2	15	5	5	7	12	12	7	24	18,898	10	(8)
11	TRINOVA	235	1,681	(14)	35	(184)	34	(505)	29	(11)	35	(17)	35	(49)	33	—		13	11	12	21	17,696	12	(9)
12	YORK INTERNATIONAL	240	1,653	14	4	(4)	25	(133)	23	(0)	25	(0)	26	(2)	26	—		—		—		11,500	18	28
13	TIMKEN	242	1,647	(3)	20	(36)	32	(165)	25	(2)	30	(2)	29	(4)	26	—		0	28	17	17	17,740	11	(6)
14	HARNISCHFEGER IND.	250	1,624	(10)	29	65	6	(12)	9	4	8	4	11	11	9	(3)	13	7	19	30	14	11,600	17	(5)
15	NACCO INDUSTRIES	276	1,369	(2)	17	21	20	(34)	16	1	19	1	21	6	19	44	1	21	3	59	8	9,858	19	(11)
16	GT AM. MGMT. & INVEST.	280	1,330	(45)	38	38	11	(21)	13	3	15	3	18	13	11	28	2	13	9	(2)	28	12,200	16	(20)
17	CRANE	283	1,303	(10)	27	23	18	(64)	21	2	18	4	15	8	15	(5)	16	18	5	22	16	9,211	20	(6)
18	FEDERAL-MOGUL	290	1,252	10	7	(5)	26	(153)	24	(0)	27	(1)	27	(4)	27	—		7	18	15	18	13,500	14	(13)
19	FIGGIE INTERNATIONAL	293	1,243	(9)	26	30	14	(24)	15	2	17	3	17	8	13	(4)	15	15	7	13	19	13,700	13	(14)
20	CLARK EQUIPMENT	303	1,201	(18)	36	(338)	35	(660)	30	(28)	37	(30)	36	(142)	34	—		1	27	(8)	31	8,033	24	(16)
21	TECUMSEH PRODUCTS	304	1,198	(11)	31	43	9	199	1	4	11	4	12	6	8	(3)	12	10	15	34	12	12,346	15	(11)
22	DRESSER-RAND	305	1,192	17	2	—		—		—		—		—		—		—		—		8,600	21	6
23	PENTAIR	306	1,170	(1)	14	41	10	25	2	4	12	5	7	13	9	11	6	22	2	67	5	8,400	23	(2)
24	IMO INDUSTRIES	332	1,024	0	13	11	21	(46)	19	1	22	1	22	3	21	—		—		0	26	8,500	22	(7)
25	BRIGGS & STRATTON	345	952	(5)	23	36	12	3	7	4	9	7	5	13	5	4	8	12	13	77	2	7,242	25	(9)
26	NORTEK	350	926	(13)	34	(27)	30	—		(3)	31	—		—		—		(11)	32	(34)	35	7,188	26	(16)
27	AM INTERNATIONAL	371	860	(2)	18	9	23	—		1	23	1	20	1	23	—		(14)	33	(25)	33	5,959	30	(19)

CONTINUED

THE 500 BY

INDUSTRY

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	PROFITS $ mil.	PROFITS % change from 1990	PROFITS AS % OF... SALES %	ASSETS %	COMMON EQUITY %	EARNINGS PER SHARE 1981-91 annual growth rate %	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	TOTAL RETURN TO INVESTORS 1991 %	EMPLOYEES Number	EMPLOYEES % change from 1990
28	LINCOLN ELECTRIC	375	844	4	—	—	—	—	—	—	—	—	—	—
29	TEREX	397	803	(23)	(33)	(316)	(4)	(6)	(48)	—	—	41	6,980	(13)
30	CINCINNATI MILACRON	402	788	(10)	(100)	—	(13)	(17)	(82)	—	(4)	12	6,903	(7)
31	INTERLAKE	420	715	(13)	(14)	—	(2)	(3)	—	—	8	71	4,902	(3)
32	TORO	423	712	(5)	10	(41)	1	2	6	—	13	8	3,580	(5)
33	BLOUNT	439	673	—	2	—	0	0	1	(23)	2	(4)	4,600	—
34	JOY TECHNOLOGIES	441	668	19	24	—	4	4	—	—	—	—	4,700	11
35	PALL	443	663	15	80	21	12	10	16	12	19	77	6,400	2
36	STEWART & STEVENSON	446	646	7	29	8	5	7	16	12	26	65	2,408	(4)
37	APPLIED MATERIALS	448	644	12	26	(23)	4	4	8	13	18	64	3,543	8
38	KENNAMETAL	460	619	5	21	(34)	3	4	9	(3)	2	8	5,360	(4)
39	GOULDS PUMPS	481	569	2	31	0	5	8	14	0	6	26	4,350	4
TOTAL			88,120		(661)								608,512	
MEDIAN			1,201	(3)	21	(29)	1	2	6	(3)	8	15	9,535	(7)

12 JEWELRY, SILVERWARE 1 COMPANY

1	JOSTENS	372	860	9	64	7	7	12	22	10	23	8	9,847	1
TOTAL			860		64								9,847	

13 LEATHER N.A.

14 METAL PRODUCTS 17 COMPANIES

1	GILLETTE	107	4,706	7	427	16	9	11	39	14	35	82	31,200	3
2	CROWN CORK & SEAL	124	3,807	24	128	20	3	4	12	12	25	58	17,763	3
3	MASCO	148	3,177	(2)	45	(68)	14	1	2	(10)	12	41	39,900	(4)
4	TYCO LABORATORIES	149	3,108	48	117	(1)	4	5	13	14	30	(19)	24,700	72
5	ILLINOIS TOOL WORKS	169	2,647	4	181	(1)	7	8	15	14	27	34	18,700	2
6	MCDERMOTT	190	2,299	(1)	(11)	(130)	(0)	(0)	—	—	—	—	23,500	15
7	BALL	192	2,267	67	66	32	3	4	10	6	20	47	13,285	6
8	STANLEY WORKS	213	1,962	(1)	83	(23)	4	5	12	4	17	46	17,420	(2)
9	HARSCO	214	1,956	11	77	6	4	7	16	3	14	19	10,500	2
10	MASCO INDUSTRIES	262	1,502	(6)	(9)	—	(1)	(0)	(8)	—	—	(0)	12,800	1
11	HILLENBRAND IND.	299	1,209	9	89	18	7	6	18	13	29	88	10,500	11
12	NEWELL	316	1,119	4	112	11	10	11	19	17	42	88	10,600	—
13	SNAP-ON TOOLS	359	883	(6)	34	(66)	4	4	5	(2)	15	6	6,824	(10)
14	DANAHER	380	837	(0)	13	(63)	2	2	4	—	28	27	7,133	(11)
15	SILGAN	436	679	3	9	217	1	2	—	—	—	—	3,560	(19)
16	ROBERTSON-CECO	445	651	12	(125)	—	(19)	—	—	—	(19)	(34)	—	—
17	BARNES GROUP	495	538	(2)	16	(5)	3	5	11	14	11	42	4,478	(6)
TOTAL			33,349		1,254								252,863	
MEDIAN			1,956	4	88	(1)	3	4	12	12	22	41	13,285	2

15 METALS 25 COMPANIES

1	ALUMINUM CO. OF AMER.	46	9,981	(8)	63	(79)	1	1	1	(16)	14	15	65,600	3
2	LTV	87	6,117	(2)	74	5	1	1	—	(25)	(25)	63	34,600	(2)
3	REYNOLDS METALS	93	5,785	(5)	154	(48)	3	2	5	2	20	(0)	30,900	0
4	BETHLEHEM STEEL	115	4,318	(12)	(767)	—	(18)	(19)	(119)	—	(3)	(2)	27,500	(7)
5	AMAX	125	3,772	(1)	30	(87)	1	1	1	(20)	(7)	(2)	20,750	2
6	INLAND STEEL IND.	139	3,404	(12)	(275)	—	(8)	(10)	(35)	—	1	(12)	18,600	(8)
7	PHELPS DODGE	180	2,461	(7)	273	(40)	11	9	15	10	10	24	13,931	(1)
8	NATIONAL STEEL	187	2,330	(7)	(189)	(967)	(8)	(10)	—	—	—	—	11,200	(4)
9	MAXXAM	189	2,317	(3)	58	(64)	2	2	13	23	7	(6)	12,000	8
10	CYPRUS MINERALS	238	1,659	(11)	43	(62)	3	2	3	—	—	28	8,083	(3)
11	ARMCO	249	1,624	(9)	(337)	—	(21)	(18)	(68)	—	(13)	7	9,200	(6)
12	NUCOR	265	1,465	(1)	65	(14)	4	5	9	6	17	45	5,600	2
13	WALTER INDUSTRIES	281	1,328	(6)	14	—	1	0	—	—	—	—	8,100	(1)
14	CYCLOPS INDUSTRIES	327	1,056	(12)	(41)	—	(4)	(9)	(136)	—	—	71	6,300	(5)

CONTINUED

THE 500 BY

INDUSTRY

RANK		500 SALES Rank	SALES $ mil.	SALES % change from 1990	Rank	PROFITS $ mil.	Rank	PROFITS % change from 1990	Rank	PROFITS AS % OF... SALES %	Rank	ASSETS %	Rank	COMMON EQUITY %	Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	Rank	1991 %	Rank	EMPLOYEES Number	Rank	% change from 1990
15	WEIRTON STEEL	330	1,039	(13)	25	(75)	20	(23,895)	18	(7)	20	(7)	19	(29)	6	—		—		(46)	20	6,973	14	(8)
16	ALLEGHENY LUDLUM	337	1,005	(7)	11	41	9	(40)	7	4	5	5	4	11	3	—		—		21	10	5,400	19	(2)
17	WHEELING-PITTSBURGH	344	966	(12)	23	5	16	—		0	18	0	18	2	13	—		—		—		5,811	17	(8)
18	ESSEX GROUP	357	886	(11)	19	13	16	(57)	11	1	13	3	8	11	4	—		—		—		3,200	23	(14)
19	WORTHINGTON IND.	366	875	(8)	16	45	7	(16)	3	5	3	8	2	13	2	6	4	20	3	57	4	6,000	16	—
20	AMSTED INDUSTRIES	391	817	(7)	12	18	14	(24)	4	2	11	4	7	—		(9)	9	—		—		7,600	13	(7)
21	MAGMA COPPER	415	725	(7)	13	(121)	21	(243)	16	(17)	23	(12)	23	(32)	7	—		—		27	8	4,559	20	1
22	TEXAS INDUSTRIES	444	655	(0)	1	22	13	—		3	7	3	9	8	8	(4)	8	3	9	30	6	2,800	24	(4)
23	LUKENS	455	631	(8)	14	23	12	(48)	8	4	6	5	5	9	8	6	3	21	1	5	14	3,884	21	(2)
24	QUANEX	472	589	(9)	18	12	17	(56)	10	2	12	3	10	8	9	(10)	10	3	10	90	1	2,603	25	(13)
25	CARPENTER TECHNOLOGY	484	562	(4)	6	30	11	(33)	5	5	2	4	6	9	6	(4)	7	5	8	10	12	3,549	22	1
TOTAL			56,368			(622)																324,743		
MEDIAN			1,328	(7)		22		(52)		1		2		5		(4)		5		18		7,800		(2)

16 MINING, CRUDE-OIL PRODUCTION 14 COMPANIES

1	OCCIDENTAL PETROLEUM	43	10,305	(53)	14	460	2	—		4	8	3	7	11	3	(15)	5	6	4	4	4	24,700	2	(55)
2	HANSON IND. NA	70	7,104	8	4	660	1	45	2	9	4	5	2	—		—		—		—		48,390	1	(15)
3	BURLINGTON RESOURCES	215	1,946	4	5	205	4	(10)	5	11	3	3	6	7	8	—		—		(6)	7	4,347	6	(13)
4	ASARCO	218	1,939	(14)	11	46	9	(69)	8	2	11	2	10	3		(3)	2	1	6	(16)	10	9,055	3	(2)
5	FREEPORT-MCMORAN	253	1,603	(1)	7	41	10	(87)	10	3	9	1	11	11	1	(13)	4	13	3	21	2	7,280	4	(1)
6	ORYX ENERGY	258	1,537	(25)	13	19	12	(92)	11	1	12	0	12	1		—		—		(26)	13	2,500	9	(7)
7	UNION TEXAS	323	1,069	(20)	12	333	3	187	1	31	1	15	1	47	1	—		—		35	1	1,049	13	(43)
8	VULCAN MATERIALS	336	1,009	(9)	10	53	7	(56)	6	5	7	5	4	8		(2)	1	14	1	9	3	6,404	5	(3)
9	NERCO	353	920	11	3	83	6	4	4	9	5	4	5	10	5	—		—		(10)	8	1,700	11	(23)
10	LOUISIANA LAND & EXP.	387	825	(7)	9	21	11	(62)	7	3	10	2	9	5	9	(15)	7	6	5	(23)	12	785	14	3
11	MAXUS ENERGY	401	793	15	2	(11)	13	(253)	13	(1)	13	(1)	13	—		—		(5)	9	(18)	11	1,926	10	5
12	MITCHELL ENERGY & DEV.	402	791	20	1	47	8	55	2	6	6	2	8	8	5	(7)	3	(1)	8	(12)	9	2,775	7	16
13	NEWMONT MINING	434	683	(2)	8	94	5	(72)	9	14	2	12	2	47	2	(15)	6	14	2	0	5	2,550	8	(12)
14	WESTMORELAND COAL	480	570	3	6	(13)	14	(207)	12	(2)	14	(4)	14	(9)	2	—		0	7	(1)	6	1,226	12	(1)
TOTAL			31,095			2,038																114,687		
MEDIAN			1,039	(2)		50		(62)		5		2		8		(13)		6		(6)		2,663		(5)

17 MOTOR VEHICLES AND PARTS 18 COMPANIES

1	GENERAL MOTORS	1	123,780	(1)	5	(4,453)	18	—		(4)	17	(2)	13	(18)	8	—		11	9	(12)	14	756,300	1	(1)
2	FORD MOTOR	3	88,963	(9)	12	(2,258)	17	(363)	14	(3)	13	(1)	11	(11)		—		28	1	12	10	332,700	2	(10)
3	CHRYSLER	11	29,370	(5)	7	(795)	16	(1,269)	15	(3)	15	(2)	12	(13)	2	—		27	2	(1)	11	126,500	3	2
4	TRW	62	7,913	(3)	6	(140)	14	(167)	12	(2)	11	(2)	14	(8)	5	—		8	10	16	9	71,300	4	(6)
5	DANA	111	4,591	(12)	15	13	7	(82)	9	0	10	0	10	1		(17)	8	8	11	(2)	12	35,000	6	(2)
6	EATON	128	3,659	(11)	14	74	1	(59)	8	2	3	2	4	6	3	1	3	15	5	35	4	35,656	5	(3)
7	NAVISTAR INTL.	136	3,487	(10)	13	(165)	15	—		(5)	18	(5)	18	(58)	8	—		(10)	14	17	8	13,472	9	(4)
8	PACCAR	186	2,377	(16)	17	55	2	(13)	3	2	1	2	6	5		(4)	5	15	6	54	2	10,163	11	(12)
9	ECHLIN	234	1,695	5	1	42	3	(12)	2	2	7	3	1	6		8	1	13	7	35	3	17,800	7	3
10	ARVIN INDUSTRIES	236	1,680	(5)	9	23	6	(32)	6	1	6	2	5	4	6	(0)	4	16	4	31	6	16,292	8	(8)
11	FLEETWOOD ENTERPRISES	270	1,415	(9)	11	30	4	(45)	7	2	4	4	2	7		29	1	21	3	63	1	11,000	10	(8)
12	A.O. SMITH	352	921	(6)	10	5	10	(83)	10	1	9	1	9	1	15	(12)	7	12	8	27	7	9,400	12	2
13	INSILCO	433	686	5	3	(15)	11	—		(2)	12	(3)	15	—		—		—		—		6,960	13	7
14	SPX	438	673	(5)	8	(19)	13	(210)	13	(3)	16	(3)	16	(10)		—		6	12	(7)	13	5,000	16	(4)
15	UIS	456	630	2	4	30	5	(3)	1	5	1	7	1	—		—		—		—		6,700	14	(1)
16	EAGLE-PICHER IND.	469	599	(14)	16	(16)	12	(140)	11	(3)	14	(4)	17	—		—		(21)	15	(64)	15	6,300	15	(17)
17	INTL. CONTROLS	482	567	(20)	18	5	9	(31)	5	1	8	1	8	—		—		—		—		3,854	17	3
18	STANDARD MOTOR	496	535	5	2	7	8	(14)	4	1	7	2	7	4	5	(21)	6	4	13	33	5	3,400	18	13
TOTAL			273,541			(7,578)																1,467,797		
MEDIAN			1,687	(6)		5		(59)		0		0		1		(2)		12		17		12,236		(3)

18 PETROLEUM REFINING 29 COMPANIES

1	EXXON	2	103,242	(2)	9	5,600	1	12	3	5	3	6	4	16	3	3	4	22	1	23	6	101,000	1	(3)
2	MOBIL	6	56,910	(3)	10	1,920	2	(0)	6	3	10	5	8	11	7	(2)	6	18	4	23	7	67,500	2	0
3	TEXACO	9	37,551	(9)	17	1,294	4	(11)	8	3	9	5	6	13	5	(6)	11	16	5	7	10	40,181	6	3

CONTINUED

THE 500 BY

INDUSTRY

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS % change from 1990	PROFITS Rank	PROFITS AS % OF... SALES %	SALES Rank	ASSETS %	ASSETS Rank	COMMON EQUITY %	COMMON EQUITY Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	EARNINGS PER SHARE Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	1981-91 Rank	TOTAL RETURN TO INVESTORS 1991 %	1991 Rank	EMPLOYEES Number	EMPLOYEES Rank	EMPLOYEES % change from 1990
4	CHEVRON	10	36,795	(6)	13	1,293	5	(40)	13	4	8	4	10	9	12	(6)	10	11	10	(1)	14	55,123	3	2
5	AMOCO	14	25,604	(9)	21	1,484	3	(22)	10	6	2	5	7	10	8	(1)	5	12	8	(2)	15	54,120	4	(1)
6	SHELL OIL	15	22,201	(9)	19	20	22	(98)	23	0	23	0	23	—		—		—		—		29,437	8	(7)
7	ATLANTIC RICHFIELD	23	17,683	(6)	12	709	6	(65)	16	4	6	3	14	10	9	(4)	8	15	6	(9)	18	27,500	9	1
8	USX	24	17,163	(12)	23	(578)	28	(171)	26	(3)	27	(3)	27	—		—		—		—		46,996	5	(9)
9	PHILLIPS PETROLEUM	32	12,604	(10)	22	258	7	(67)	18	2	13	2	16	9	11	(6)	13	13	7	(4)	16	22,700	10	1
10	SUN	44	10,246	(14)	26	(387)	27	(269)	27	(4)	28	(5)	28	(14)	26	—		8	14	16	8	17,000	12	(19)
11	UNOCAL	48	9,780	(9)	18	73	17	(82)	20	1	21	1	21	3	18	(18)	17	6	18	(9)	17	17,248	11	(2)
12	COASTAL	49	9,603	0	6	96	13	(57)	15	1	19	1	18	5	16	—		10	11	(23)	24	16,515	13	19
13	ASHLAND OIL	52	9,322	9	4	145	8	(20)	9	2	14	3	15	10	10	9	2	12	9	13	9	32,900	7	(1)
14	CITGO PETROLEUM	54	8,922	17	2	136	9	37	1	2	15	4	9	—		—		—		—		4,393	22	31
15	AMERADA HESS	80	6,416	(9)	20	84	14	(83)	21	1	17	1	19	3	19	(9)	15	10	12	3	11	10,317	15	7
16	FINA	141	3,339	(16)	28	42	18	(67)	17	1	18	1	17	4	17	(9)	16	6	16	(10)	20	3,665	25	(8)
17	KERR-MCGEE	142	3,307	(13)	24	102	11	(32)	11	3	11	3	13	7	15	(6)	12	4	20	(11)	22	6,072	18	(10)
18	PENNZOIL	168	2,685	13	3	21	21	(78)	19	1	20	0	22	2	20	(19)	18	9	13	(11)	21	11,694	14	1
19	MAPCO	170	2,646	(2)	8	126	10	(3)	7	5	4	7	2	31	1	9	1	19	3	48	3	6,000	19	(6)
20	DIAMOND SHAMROCK	172	2,576	(5)	11	37	19	(52)	14	1	16	3	11	8	13	—		—		2	12	5,999	20	15
21	TOTAL PETROLEUM	176	2,516	—		(12)	26	—		(0)	25	(1)	26	(4)	23	—		3	22	(23)	23	7,100	16	—
22	TOSCO	212	1,987	(8)	15	75	15	(39)	12	4	7	8	1	19	2	(7)	14	(9)	23	76	2	1,760	28	0
23	MURPHY OIL	223	1,877	(9)	16	(11)	25	(110)	24	(1)	26	(1)	24	(1)	23	—		4	19	(10)	19	3,991	23	(1)
24	CROWN CENTRAL	225	1,765	(14)	27	(6)	24	(123)	25	(0)	24	(1)	25	(2)	22	—		7	15	1	13	3,894	24	(18)
25	WITCO	245	1,641	(1)	7	73	16	8	4	4	5	6	5	12	6	6	3	20	2	43	4	6,919	17	(5)
26	TESORO PETROLEUM	318	1,089	8	5	4	23	(83)	22	0	22	1	20	(7)	24	—		(13)	24	(32)	25	2,000	26	18
27	VALERO ENERGY	335	1,012	(13)	25	99	12	4	5	10	1	7	3	13	4	(5)	9	4	21	96	1	1,890	27	4
28	NATL. COOP. REFINERY	368	869	29	1	—		—		—		—		—		—		—		—		569	29	(3)
29	QUAKER STATE	392	814	(7)	14	23	20	16	2	3	12	3	12	7	14	(4)	7	6	17	29	5	4,525	21	(3)
TOTAL			412,166			12,721																609,006		
MEDIAN			6,416	(8)		80		(52)		2		3		8		(6)		9		1		10,317		(1)

19 PHARMACEUTICALS 17 COMPANIES

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS % change from 1990	PROFITS Rank	PROFITS AS % OF... SALES %	SALES Rank	ASSETS %	ASSETS Rank	COMMON EQUITY %	COMMON EQUITY Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	EARNINGS PER SHARE Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	1981-91 Rank	TOTAL RETURN TO INVESTORS 1991 %	1991 Rank	EMPLOYEES Number	EMPLOYEES Rank	EMPLOYEES % change from 1990
1	JOHNSON & JOHNSON	34	12,447	11	9	1,461	3	28	4	12	9	14	7	26	9	13	8	23	11	62	8	82,700	1	1
2	BRISTOL-MYERS SQUIBB	40	11,298	8	14	2,056	2	18	7	18	4	22	3	35	4	13	9	25	8	36	13	53,500	2	1
3	MERCK	59	8,603	10	11	2,122	1	19	5	25	1	22	2	43	2	20	1	31	3	89	4	37,700	6	2
4	PFIZER	69	7,144	8	13	722	7	(10)	14	10	10	7	13	14	11	11	12	24	9	113	3	44,100	5	4
5	AMERICAN HOME PRODUCTS	71	7,103	3	15	1,375	4	12	12	19	3	23	1	42	3	11	13	22	12	67	7	47,938	3	0
6	ABBOTT LABORATORIES	74	6,922	11	7	1,089	6	13	11	16	6	17	4	34	5	18	7	29	5	56	10	45,694	4	4
7	ELI LILLY	95	5,726	10	10	1,315	5	17	8	23	2	16	6	26	7	14	6	23	10	17	15	30,800	8	3
8	WARNER-LAMBERT	100	5,167	8	12	35	15	(93)	15	1	15	1	15	3	15	16	4	26	7	18	14	34,000	7	—
9	RHÔNE-POULENC RORER	123	3,824	29	2	327	10	32,913	1	9	12	8	12	33	6	15	5	33	2	87	5	22,643	9	(3)
10	SCHERING-PLOUGH	126	3,688	11	8	646	8	14	10	18	5	16	5	48	1	14	7	29	4	52	11	20,200	10	3
11	UPJOHN	135	3,488	15	4	537	9	18	6	15	7	13	8	26	8	11	11	20	14	11	16	19,100	11	3
12	IMCERA GROUP	244	1,646	14	5	88	12	56	3	5	14	4	14	8	14	(4)	14	20	13	75	6	9,800	12	2
13	ALLERGAN	354	907	2	16	(60)	16	(173)	16	(7)	16	(7)	16	(13)	16	—		—		42	12	5,600	13	(12)
14	DU PONT MERCK	400	795	—		—		—		—		—		—		—		—		—		4,500	14	—
15	AMGEN	427	705	127	1	98	11	2,432	2	14	8	11	9	18	10	—		—		263	1	1,723	17	59
16	CARTER-WALLACE	449	643	13	6	52	14	3	13	8	13	9	11	14	12	16	3	41	1	133	2	4,270	15	4
17	BLOCK DRUG	499	531	17	3	53	13	15	9	10	11	10	10	13	13	12	10	28	6	61	9	3,105	16	2
TOTAL			80,631			11,918																467,373		
MEDIAN			3,824	11		592		16		13		12		26		14		25		62		22,643		2

20 PUBLISHING, PRINTING 20 COMPANIES

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS % change from 1990	PROFITS Rank	PROFITS AS % OF... SALES %	SALES Rank	ASSETS %	ASSETS Rank	COMMON EQUITY %	COMMON EQUITY Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	EARNINGS PER SHARE Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	1981-91 Rank	TOTAL RETURN TO INVESTORS 1991 %	1991 Rank	EMPLOYEES Number	EMPLOYEES Rank	EMPLOYEES % change from 1990
1	R.R. DONNELLY	121	3,915	12	2	205	4	(9)	9	5	10	6	7	12	9	10	8	21	5	28	7	29,300	2	(4)
2	TIMES MIRROR	130	3,624	(0)	11	82	11	(55)	16	2	19	2	19	4	19	(5)	16	14	12	20	9	27,732	3	(5)
3	GANNETT	140	3,382	(2)	12	302	2	(20)	12	9	4	8	4	20	3	7	10	18	9	30	6	36,700	1	0
4	BERKSHIRE HATHAWAY	158	2,914	11	3	440	1	12	6	15	1	3	16	6	16	20	1	32	1	36	5	22,000	4	10
5	READER'S DIGEST	185	2,394	16	1	209	3	19	3	9	5	13	3	29	1	—		—		67	2	7,400	13	—
6	KNIGHT-RIDDER	193	2,244	(3)	14	132	8	(11)	10	6	8	6	9	11	10	5	11	16	10	19	12	20,407	6	(3)
7	TRIBUNE	206	2,035	(14)	20	142	7	—		7	7	5	11	15	5	—		—		19	11	12,878	9	(20)
8	MCGRAW-HILL	216	1,943	0	10	148	6	(14)	11	8	6	6	8	15	6	4	12	12	14	13	16	13,539	8	(2)

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THE 500 BY

INDUSTRY

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS % change from 1990	PROFITS Rank	PROFITS AS % OF... SALES %	SALES Rank	PROFITS AS % OF... ASSETS %	ASSETS Rank	PROFITS AS % OF... COMMON EQUITY %	COMMON EQUITY Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	EARNINGS PER SHARE Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	1981-91 Rank	TOTAL RETURN TO INVESTORS 1991 %	1991 Rank	EMPLOYEES Number	EMPLOYEES Rank	EMPLOYEES % change from 1990
9	DOW JONES	227	1,732	0	8	72	12	(32)	15	4	15	3	17	5	17	(1)	14	7	16	11	17	9,459	12	(2)
10	NEW YORK TIMES	232	1,703	(4)	17	47	15	(28)	14	3	18	2	18	4	18	(1)	15	16	11	17	14	10,100	10	(3)
11	DELUXE	263	1,490	5	5	183	5	6	7	12	2	17	1	24	2	14	4	23	3	17	15	17,563	7	2
12	AMERICAN GREETINGS	268	1,432	9	4	82	10	14	4	6	9	7	6	13	8	10	6	18	8	25	8	21,400	5	3
13	WASHINGTON POST	271	1,399	(4)	18	71	13	(59)	17	5	11	5	13	8	15	10	7	21	4	0	18	5,950	16	(2)
14	E.W. SCRIPPS	284	1,300	0	9	65	14	35	2	5	12	4	15	10	12	—		—		45	3	9,700	11	(14)
15	MEREDITH	411	759	3	6	83	9	—		11	3	14	2	24	3	15	3	12	13	18	13	2,270	20	(39)
16	COMM. CLEARING HOUSE	421	714	(3)	13	31	17	(24)	13	4	14	5	12	14	7	1	13	6	17	(5)	19	7,180	15	(6)
17	STANDARD REGISTER	432	694	(3)	16	33	16	50	1	5	13	7	5	10	11	19	2	21	6	40	4	5,852	17	(5)
18	BANTA	463	610	(3)	15	21	19	13	5	3	17	5	10	9	13	7	9	27	2	20	10	4,228	19	3
19	REYNOLDS & REYNOLDS	467	602	0	7	22	18	(8)	8	4	16	4	14	9	11	11	5	18	7	138	1	4,826	18	(5)
20	MEDIA GENERAL	474	586	(4)	19	(62)	20	(344)	18	(11)	20	(8)	20	(31)	20	—		7	15	(7)	20	7,200	14	11
TOTAL			35,470			2,307																275,684		
MEDIAN			1,597	(0)		82		(10)		5		5		11		9		18		19		9,900		(3)

21 RUBBER AND PLASTICS PRODUCTS 10 COMPANIES

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS % change from 1990	PROFITS Rank	PROFITS AS % OF... SALES %	SALES Rank	PROFITS AS % OF... ASSETS %	ASSETS Rank	PROFITS AS % OF... COMMON EQUITY %	COMMON EQUITY Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	EARNINGS PER SHARE Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	1981-91 Rank	TOTAL RETURN TO INVESTORS 1991 %	1991 Rank	EMPLOYEES Number	EMPLOYEES Rank	EMPLOYEES % change from 1990
1	GOODYEAR TIRE	41	11,046	(4)	10	97	3	—		1	7	1	7	4	7	(8)	6	16	7	187	2	99,952	1	(7)
2	PREMARK INTL.	163	2,816	3	5	102	2	97	1	4	5	5	6	12	5	—		—		143	3	24,000	2	(6)
3	RUBBERMAID	237	1,673	9	2	163	1	13	5	10	2	13	2	18	2	17	2	35	2	84	6	9,754	3	4
4	M.A. HANNA	309	1,150	3	6	2	8	(97)	7	0	8	0	8	0	8	(36)	7	2	9	7	10	5,836	6	(2)
5	COOPER TIRE & RUBBER	338	1,002	12	1	79	5	20	3	8	3	12	4	18	4	14	4	42	1	200	1	6,545	5	5
6	A. SCHULMAN	414	740	9	3	42	6	17	4	6	4	12	3	18	3	30	1	37	2	38	9	1,491	10	8
7	STANDARD PRODUCTS	452	638	(2)	9	(46)	10	(487)	9	(7)	10	(12)	10	(45)	10	—		32	4	96	5	7,543	4	13
8	CARLISLE	459	621	(1)	8	(8)	9	(137)	8	(1)	9	(2)	9	(4)	9	—		7	8	43	8	4,876	7	(1)
9	BANDAG	470	594	(0)	7	80	4	1	6	13	1	18	1	27	1	16	3	27	5	44	7	2,477	9	3
10	CONSTAR INTERNATIONAL	489	548	9	4	17	7	24	2	3	6	5	5	11	6	2	5	19	6	114	4	3,600	8	6
TOTAL			20,828			526																166,074		
MEDIAN			871	3		61		13		3		5		12		14		27		90		4,191		3

22 SCIENTIFIC AND PHOTOGRAPHIC EQUIPMENT 19 COMPANIES

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS % change from 1990	PROFITS Rank	PROFITS AS % OF... SALES %	SALES Rank	PROFITS AS % OF... ASSETS %	ASSETS Rank	PROFITS AS % OF... COMMON EQUITY %	COMMON EQUITY Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	EARNINGS PER SHARE Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	1981-91 Rank	TOTAL RETURN TO INVESTORS 1991 %	1991 Rank	EMPLOYEES Number	EMPLOYEES Rank	EMPLOYEES % change from 1990
1	EASTMAN KODAK	18	19,649	3	14	17	18	(98)	17	0	18	0	18	0	17	(34)	17	9	15	22	14	133,200	1	(1)
2	XEROX	22	17,830	(3)	16	454	4	87	6	3	16	1	17	7	5	(6)	16	12	11	105	4	109,400	2	(1)
3	MINNESOTA MINING	29	13,340	2	15	1,154	1	(12)	14	9	5	10	5	18	3	6	11	18	7	15	16	88,477	3	(1)
4	BAXTER INTERNATIONAL	55	8,921	9	6	591	3	1,378	1	7	7	6	10	14	3	7	10	11	13	47	11	65,900	4	2
5	HONEYWELL	83	6,221	(11)	18	331	6	(13)	15	5	10	7	8	18	4	5	12	18	6	50	10	58,182	5	(4)
6	EG&G	167	2,691	9	7	81	9	10	10	3	15	12	4	19	4	9	8	12	12	64	7	35,656	6	15
7	BECTON DICKINSON	196	2,172	8	8	190	6	4	12	9	4	7	9	15	6	10	7	13	9	(7)	19	18,600	7	1
8	POLAROID	203	2,096	5	11	684	2	353	2	33	1	36	1	87	1	39	1	13	10	17	15	12,003	9	3
9	BAUSCH & LOMB	259	1,536	11	5	28	17	(79)	16	2	17	2	16	3	16	8	9	19	5	66	6	13,700	8	5
10	TEKTRONIX	279	1,331	(6)	17	48	12	—		4	14	5	12	11	8	(3)	14	(1)	17	10	17	11,947	10	(14)
11	MEDTRONIC	331	1,031	23	2	133	7	23	9	13	2	13	2	20	2	13	5	27	2	120	3	7,560	12	12
12	PERKIN-ELMER	361	880	4	13	(16)	19	(135)	18	(2)	19	(2)	19	(6)	18	—		4	16	46	12	6,355	15	(1)
13	C.R. BARD	364	876	12	4	57	11	42	7	7	8	9	6	16	9	11	6	22	4	84	5	9,100	11	4
14	BECKMAN INSTRUMENTS	373	858	4	12	38	14	5	11	4	13	5	13	11	10	—		—		24	13	6,900	14	(3)
15	UNITED STATES SURGICAL	376	844	64	1	91	8	98	5	11	3	12	3	28	1	19	2	37	1	212	1	7,400	13	62
16	THERMO ELECTRON	385	830	15	3	47	13	39	8	6	9	4	15	10	13	13	4	22	3	61	8	5,961	17	(1)
17	MILLIPORE	412	748	5	10	60	10	117	4	8	6	8	7	13	12	19	3	16	8	4	18	5,755	18	(6)
18	AMETEK	419	715	7	9	38	15	2	13	5	11	6	11	18	6	4	13	10	14	51	9	6,100	16	—
19	ANACOMP	451	639	(14)	19	29	16	205	3	5	12	4	14	—		(3)	15	(11)	18	121	2	4,600	19	(12)
TOTAL			83,208			4,057																606,796		
MEDIAN			1,331	5		60		16		5		6		14		8		13		50		11,947		(1)

23 SOAPS, COSMETICS 11 COMPANIES

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	SALES Rank	PROFITS $ mil.	PROFITS Rank	PROFITS % change from 1990	PROFITS Rank	PROFITS AS % OF... SALES %	SALES Rank	PROFITS AS % OF... ASSETS %	ASSETS Rank	PROFITS AS % OF... COMMON EQUITY %	COMMON EQUITY Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	EARNINGS PER SHARE Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	1981-91 Rank	TOTAL RETURN TO INVESTORS 1991 %	1991 Rank	EMPLOYEES Number	EMPLOYEES Rank	EMPLOYEES % change from 1990
1	PROCTER & GAMBLE	13	27,406	12	3	1,773	1	11	1	6	3	9	4	22	2	11	4	21	8	11	8	94,000	1	6
2	UNILEVER U.S.	56	8,855	2	11	—		—		—		—		—		—		—		—		26,634	3	—
3	COLGATE-PALMOLIVE	90	6,094	6	7	125	4	(61)	8	2	9	3	9	7	8	(5)	8	24	5	36	4	24,900	4	0
4	AVON PRODUCTS	132	3,593	2	10	136	3	(31)	7	4	6	8	5	47	1	(7)	9	12	10	72	1	30,500	2	2
5	CLOROX	243	1,646	10	5	53	5	(66)	9	3	8	3	8	7	9	2	7	27	4	17	6	6,100	8	11

CONTINUED

THE 500 BY

INDUSTRY

RANK		500 SALES RANK	SALES $ mil.	SALES % change from 1990	Rank	PROFITS $ mil.	Rank	PROFITS % change from 1990	Rank	PROFITS AS % OF... SALES %	Rank	ASSETS %	Rank	COMMON EQUITY %	Rank	EARNINGS PER SHARE 1981-91 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1981-91 annual rate %	Rank	1991 %	Rank	EMPLOYEES Number	Rank	% change from 1990	Rank
6	INTL. FLAVORS	333	1,017	6	8	169	2	8	3	17	1	14	1	18	4	9	5	22	7	42	3	4,218	10	1	
7	HELENE CURTIS INDUST.	355	892	21	1	2	10	(90)	10	0	10	0	10	1	10	(11)	10	30	2	57	2	3,000	11	(3)	
8	ALBERTO-CULVER	367	874	10	4	30	9	(14)	6	3	7	5	7	12	6	15	1	30	3	9	9	7,300	6	24	
9	STANHOME	424	710	5	9	45	7	(12)	5	6	5	11	2	19	3	11	3	31	1	12	7	4,250	9	(8)	
10	SAFETY-KLEEN	430	697	18	2	52	6	(7)	4	7	2	6	6	11	7	14	2	23	6	(0)	10	6,500	7	12	
11	NCH	437	678	8	6	43	8	8	2	6	4	10	3	17	5	8	6	19	9	22	5	10,505	5	6	
TOTAL			52,462			2,427																217,907			
MEDIAN			1,017	8		52		(13)		5		7		15		9		23		19		7,300		4	
24 TEXTILES 13 COMPANIES																									
1	WICKES	171	2,622	(28)	13	(92)	11	(139)	5	(3)	11	(4)	11	—		—		—		—		25,200	1	(15)	
2	BURLINGTON IND. CAPITAL	205	2,081	(9)	12	(69)	10	—		(3)	10	(4)	10	—		—		—		—		24,000	2	—	
3	SPRINGS INDUSTRIES	221	1,891	1	5	27	2	—		1	6	2	4	5	4	(4)	4	15	3	45	5	21,000	3	(5)	
4	WEST POINT-PEPPERELL	246	1,634	35	1	—		—		—		—		—		—		12	4	23	8	—		—	
5	SHAW INDUSTRIES	252	1,608	9	3	33	1	(49)	3	2	3	4	3	5	1	14	2	45	1	76	3	15,480	6	3	
6	AMOSKEAG	292	1,244	(3)	8	1	7	—		0	7	0	7	1		—		—		42	6	17,772	4	(7)	
7	DWG	297	1,222	(1)	7	(17)	9	—		(1)	9	(2)	9	(18)	8	—		5	5	(0)	9	17,500	5	1	
8	JPS TEXTILE GROUP	410	761	(7)	11	(9)	8	—		(1)	8	(2)	8	—		—		—		—		8,144	7	(5)	
9	CONE MILLS	429	700	2	4	—		—		—		—		—		—		—		—		—		—	
10	DELTA WOODSIDE INDUST.	471	590	18	2	24	3	302	1	4	1	6	1	14		—		—		286	1	7,900	8	(5)	
11	INTERFACE	475	582	(7)	10	9	6	(62)	4	2	5	2	5	4	6	40	1	—		25	7	3,888	11	(10)	
12	ALBANY INTERNATIONAL	487	558	(0)	6	10	5	35	2	2	4	2	6	4	6	—		—		57	4	5,726	9	(7)	
13	GUILFORD MILLS	500	529	(3)	9	16	4	—		3	2	4	2	9	2	(2)	3	17	2	103	2	4,132	10	4	
TOTAL			16,022			(65)																150,742			
MEDIAN			1,222	(1)		9		(49)		1		2		5		6		15		45		15,480		(5)	
25 TOBACCO 7 COMPANIES																									
1	RJR NABISCO HOLDINGS	25	14,989	8	6	368	2	—		2	3	1	5	2	5	—		—		—		56,000	1	2	
2	AMERICAN BRANDS	61	8,379	1	7	806	1	35	2	10	2	5	2	19	3	9	3	24	4	13	5	48,000	2	(2)	
3	UNIVERSAL	144	3,274	16	4	20	5	(55)	4	1	5	2	4	5	4	(4)	4	25	3	207	2	20,000	3	—	
4	BROOKE GROUP	289	1,256	31	2	-		—		—		—		—		—		—		(29)	6	—		—	
5	STANDARD COMMERCIAL	329	1,046	11	5	(10)	6	—		(1)	6	(2)	6	(8)	6	—		23	5	190	3	1,800	6	6	
6	DIBRELL BROTHERS	334	1,012	32	1	21	4	76	1	2	4	4	3	22	2	18	2	41	1	235	1	2,850	5	97	
7	UST	362	879	16	3	266	3	19	3	30	1	41	1	55	1	20	1	38	2	84	4	3,569	4	1	
TOTAL			30,836			1,472																132,219			
MEDIAN			1,256	16		144		27		2		3		12		14		25		137		11,785		2	
26 TOYS, SPORTING GOODS 2 COMPANIES																									
1	HASBRO	198	2,141	41	1	82	2	(8)	2	4	2	4	2	9	2	23	2	49	1	161	1	10,500	2	36	
2	MATTEL	241	1,650	12	2	113	1	24	1	7	1	11	1	26	1	34	1	15	2	107	2	12,509	1	0	
TOTAL			3,791			194																23,009			
27 TRANSPORTATION EQUIPMENT 6 COMPANIES																									
1	BRUNSWICK	204	2,088	(16)	6	(24)	4	(133)	4	(1)	4	(1)	4	(3)	4	—		23	1	59	3	19,500	1	(5)	
2	TRINITY INDUSTRIES	288	1,263	(4)	4	30	2	(21)	3	2	3	3	3	9	3	(7)	2	8	4	49	4	9,800	2	4	
3	OUTBOARD MARINE	341	984	(14)	5	(84)	5	—		(9)	5	(9)	5	(18)	5	—		9	3	34	5	8,449	3	(22)	
4	HARLEY-DAVIDSON	348	940	8	2	37	1	(2)	2	4	1	8	1	16	2	—		—		132	1	5,300	5	6	
5	AVONDALE INDUSTRIES	399	800	6	3	—		—		—		—		—		—		—		(30)	6	—		—	
6	HUFFY	435	679	31	1	20	3	10	1	3	2	6	2	16	1	10	1	17	2	125	2	5,735	4	(0)	
TOTAL			6,754			(21)																48,784			
MEDIAN			942	1		20		(12)		2		3		9		1		13		54		8,449		(0)	

CONTINUED

INDUSTRY OVERVIEWS

MEDIANS

CHANGES IN SALES

RANK		INCREASES %
1	TOBACCO	16.3
2	PHARMACEUTICALS	10.9
3	BEVERAGES	7.9
4	SOAPS, COSMETICS	7.8
5	COMPUTERS, OFFICE EQUIPMENT	7.2
6	APPAREL	7.0
7	SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	5.4
8	FOOD	5.0
9	METAL PRODUCTS	3.8
10	RUBBER AND PLASTICS PRODUCTS	2.9
11	ELECTRONICS, ELECTRICAL EQUIPMENT	1.9
12	CHEMICALS	1.3
13	TRANSPORTATION EQUIPMENT	1.2
		DECREASES %
14	PUBLISHING, PRINTING	0.0
15	AEROSPACE	1.0
16	FURNITURE	1.2
17	TEXTILES	1.3
18	MINING, CRUDE-OIL PRODUCTION	1.7
19	INDUSTRIAL AND FARM EQUIPMENT	3.0
20	FOREST PRODUCTS	3.6
21	BUILDING MATERIALS	4.6
22	MOTOR VEHICLES AND PARTS	5.7
23	METALS	7.4
24	PETROLEUM REFINING	7.6

CHANGES IN PROFITS

RANK		INCREASES %
1	TOBACCO	27.2
2	SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	16.3
3	PHARMACEUTICALS	16.0
4	RUBBER AND PLASTICS PRODUCTS	13.3
5	FOOD	13.2
6	BEVERAGES	5.9
7	APPAREL	1.1
8	COMPUTERS, OFFICE EQUIPMENT	1.1
9	AEROSPACE	0.7
		DECREASES %
10	METAL PRODUCTS	1.0
11	ELECTRONICS, ELECTRICAL EQUIPMENT	9.3
12	PUBLISHING, PRINTING	10.3
13	TRANSPORTATION EQUIPMENT	11.7
14	SOAPS, COSMETICS	12.9
15	CHEMICALS	17.8
16	FURNITURE	20.6
17	INDUSTRIAL AND FARM EQUIPMENT	28.9
18	FOREST PRODUCTS	39.6
19	TEXTILES	49.5
20	METALS	51.8
21	PETROLEUM REFINING	52.1
22	BUILDING MATERIALS	53.8
23	MOTOR VEHICLES AND PARTS	58.7
24	MINING, CRUDE-OIL PRODUCTION	61.9

TOTAL RETURN TO INVESTORS,* 1991

RANK		%
1	TOBACCO	137.3
2	RUBBER AND PLASTICS PRODUCTS	90.3
3	PHARMACEUTICALS	61.5
4	TRANSPORTATION EQUIPMENT	54.3
5	APPAREL	52.6
6	SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	50.2
7	TEXTILES	45.2
8	FURNITURE	41.5
9	METAL PRODUCTS	40.8
10	BUILDING MATERIALS	39.8
11	ELECTRONICS, ELECTRICAL EQUIPMENT	37.6
12	FOREST PRODUCTS	37.5
13	AEROSPACE	35.5
14	BEVERAGES	32.3
15	CHEMICALS	31.9
16	FOOD	26.7
17	PUBLISHING, PRINTING	19.4
18	SOAPS, COSMETICS	19.4
19	METALS	18.2
20	MOTOR VEHICLES AND PARTS	16.7
21	INDUSTRIAL AND FARM EQUIPMENT	15.0
22	COMPUTERS, OFFICE EQUIPMENT	12.3
23	PETROLEUM REFINING	0.7
24	MINING, CRUDE-OIL PRODUCTION	(5.5)
	ALL INDUSTRIES	29.5

TOTAL RETURN TO INVESTORS' 1981–91 ANNUAL RATE

RANK		%
1	FOOD	28.2
2	RUBBER AND PLASTICS PRODUCTS	27.5
3	APPAREL	27.3
4	PHARMACEUTICALS	25.3
5	TOBACCO	24.7
6	SOAPS, COSMETICS	23.4
7	BEVERAGES	23.0
8	BUILDING MATERIALS	22.8
9	METAL PRODUCTS	22.4
10	PUBLISHING, PRINTING	17.6
11	FURNITURE	17.3
12	CHEMICALS	17.2
13	FOREST PRODUCTS	17.2
14	TEXTILES	14.7
15	SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	13.1
16	TRANSPORTATION EQUIPMENT	12.7
17	ELECTRONICS, ELECTRICAL EQUIPMENT	12.1
18	MOTOR VEHICLES AND PARTS	11.6
19	AEROSPACE	10.9
20	PETROLEUM REFINING	9.2
21	INDUSTRIAL AND FARM EQUIPMENT	8.0
22	MINING, CRUDE-OIL PRODUCTION	6.2
23	METALS	5.4
24	COMPUTERS, OFFICE EQUIPMENT	3.2
	ALL INDUSTRIES	15.5

SALES PER DOLLAR OF STOCKHOLDERS' EQUITY

RANK		$
1	TOBACCO	5.20
2	FOOD	4.82
3	APPAREL	3.96
4	AEROSPACE	3.91
5	TRANSPORTATION EQUIPMENT	3.72
6	PETROLEUM REFINING	3.44
7	METAL PRODUCTS	3.43
8	MOTOR VEHICLES AND PARTS	3.37
9	INDUSTRIAL AND FARM EQUIPMENT	3.34
10	RUBBER AND PLASTICS PRODUCTS	3.23
11	FURNITURE	3.17
12	SOAPS, COSMETICS	3.11
13	TEXTILES	2.97
14	ELECTRONICS, ELECTRICAL EQUIP.	2.78
15	METALS	2.50
16	SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	2.50
17	BEVERAGES	2.48
18	COMPUTERS, OFFICE EQUIPMENT	2.38
19	CHEMICALS	2.36
20	PUBLISHING, PRINTING	2.14
21	BUILDING MATERIALS	1.95
22	PHARMACEUTICALS	1.85
23	FOREST PRODUCTS	1.77
24	MINING, CRUDE-OIL PRODUCTION	1.64
	ALL INDUSTRIES	2.81

SALES PER EMPLOYEE

RANK		$
1	PETROLEUM REFINING	555,242
2	MINING, CRUDE-OIL PRODUCTION	414,518
3	TOBACCO	257,043
4	SOAPS, COSMETICS	241,102
5	FOOD	239,027
6	CHEMICALS	227,256
7	BEVERAGES	201,072
8	METALS	176,658
9	FOREST PRODUCTS	174,051
10	PHARMACEUTICALS	168,895
11	COMPUTERS, OFFICE EQUIPMENT	163,698
12	BUILDING MATERIALS	157,863
13	RUBBER AND PLASTICS PRODUCTS	152,650
14	INDUSTRIAL AND FARM EQUIPMENT	137,680
15	AEROSPACE	135,671
16	PUBLISHING, PRINTING	133,022
17	SCIENTIFIC AND PHOTO. EQUIP.	129,970
18	MOTOR VEHICLES AND PARTS	129,916
19	METAL PRODUCTS	123,013
20	TRANSPORTATION EQUIPMENT	118,385
21	ELECTRONICS, ELECTRICAL EQUIP.	111,186
22	FURNITURE	105,480
23	TEXTILES	93,442
24	APPAREL	73,918
	ALL INDUSTRIES	159,575

*Capital gains and losses, plus dividends

CONTINUED

THE 500

INDUSTRY OVERVIEWS

MEDIANS

RETURN ON SALES

RANK		1991 %	1990 %
1	PHARMACEUTICALS	12.8	13.6
2	BEVERAGES	5.5	7.8
3	SCIENTIFIC AND PHOTO. EQUIP.	5.3	4.9
4	PUBLISHING, PRINTING	5.1	5.5
5	SOAPS, COSMETICS	5.1	6.0
6	COMPUTERS, OFFICE EQUIP.	4.9	5.7
7	MINING, CRUDE-OIL PROD.	4.8	8.7
8	CHEMICALS	3.7	5.5
9	FOOD	3.5	3.1
10	APPAREL	3.4	3.3
11	METAL PRODUCTS	3.4	3.7
12	RUBBER AND PLASTICS PROD.	3.4	3.6
13	AEROSPACE	3.3	3.5
14	FOREST PRODUCTS	2.9	4.4
15	ELECTRONICS, ELEC. EQUIP.	2.7	3.4
16	TRANSPORTATION EQUIPMENT	2.4	2.9
17	FURNITURE	2.3	2.7
18	TOBACCO	2.3	1.6
19	PETROLEUM REFINING	1.5	4.0
20	INDUSTRIAL AND FARM EQUIP.	1.5	2.9
21	METALS	1.5	4.3
22	TEXTILES	1.4	0.4
23	MOTOR VEHICLES AND PARTS	0.4	1.9
24	BUILDING MATERIALS	(3.6)	2.4
	500 MEDIANS	3.2	4.1

RETURN ON ASSETS

RANK		1991 %	1990 %
1	PHARMACEUTICALS	12.1	13.1
2	FOOD	7.1	6.2
3	SOAPS, COSMETICS	6.8	8.3
4	SCIENTIFIC AND PHOTO. EQUIP.	6.3	5.7
5	APPAREL	6.1	4.2
6	BEVERAGES	5.8	7.0
7	RUBBER AND PLASTICS PROD.	5.2	5.2
8	PUBLISHING, PRINTING	5.1	4.7
9	COMPUTERS, OFFICE EQUIP.	4.9	6.4
10	METAL PRODUCTS	4.5	4.8
11	AEROSPACE	4.4	4.6
12	CHEMICALS	3.9	5.8
13	FURNITURE	3.5	4.4
14	TRANSPORTATION EQUIPMENT	3.2	3.7
15	ELECTRONICS, ELEC. EQUIP.	3.1	4.7
16	PETROLEUM REFINING	2.8	5.0
17	TOBACCO	2.8	3.9
18	MINING, CRUDE-OIL PROD.	2.5	4.5
19	INDUSTRIAL AND FARM EQUIP.	2.4	3.5
20	FOREST PRODUCTS	1.8	4.2
21	METALS	1.8	4.3
22	TEXTILES	1.5	0.6
23	MOTOR VEHICLES AND PARTS	0.5	2.2
24	BUILDING MATERIALS	(3.6)	2.1
	500 MEDIANS	3.7	4.7

RETURN ON COMMON EQUITY

RANK		1991 %
1	PHARMACEUTICALS	26.1
2	BEVERAGES	21.1
3	FOOD	19.7
4	SOAPS, COSMETICS	14.7
5	SCIENTIFIC AND PHOTO. EQUIPMENT	14.3
6	APPAREL	13.6
7	CHEMICALS	12.6
8	AEROSPACE	12.4
9	TOBACCO	12.1
10	METAL PRODUCTS	11.8
11	RUBBER AND PLASTICS PRODUCTS	11.6
12	PUBLISHING, PRINTING	10.7
13	ELECTRONICS, ELEC. EQUIPMENT	10.7
14	COMPUTERS, OFFICE EQUIPMENT	10.2
15	FURNITURE	9.2
16	TRANSPORTATION EQUIPMENT	8.9
17	PETROLEUM REFINING	8.5
18	MINING, CRUDE-OIL PRODUCTION	7.7
19	INDUSTRIAL AND FARM EQUIPMENT	6.0
20	METALS	5.2
21	FOREST PRODUCTS	4.6
22	TEXTILES	4.6
23	MOTOR VEHICLES AND PARTS	1.0
24	BUILDING MATERIALS	(0.7)
	500 MEDIANS	10.2

TOTALS

RANK		SALES $ mil.	PROFITS $ mil.	Rank	ASSETS $ mil.	Rank	STOCKHOLDERS' EQUITY $ mil.	Rank	MARKET VALUE $ mil.	Rank	EMPLOYEES Number	Rank
1	PETROLEUM REFINING	412,166	12,721	1	369,739	2	143,488	1	201,043	2	609,008	7
2	MOTOR VEHICLES AND PARTS	273,542	(7,576)	26	427,601	1	63,355	4	57,264	11	1,467,797	1
3	FOOD	195,494	8,923	3	133,408	6	43,711	6	183,133	3	1,044,034	3
4	ELECTRONICS, ELECTRICAL EQUIP.	188,298	5,656	5	284,923	3	68,436	3	165,386	4	1,389,471	2
5	CHEMICALS	162,140	5,865	4	162,733	4	62,600	5	113,295	5	659,592	6
6	COMPUTERS, OFFICE EQUIPMENT	140,054	(2,812)	25	157,003	5	69,160	2	110,550	6	844,983	5
7	AEROSPACE	137,773	2,181	10	107,028	8	32,657	9	48,803	13	985,506	4
8	FOREST PRODUCTS	100,193	1,182	14	127,639	7	41,483	8	70,275	9	548,724	10
9	INDUSTRIAL AND FARM EQUIPMENT	85,120	(661)	22	85,225	10	25,900	13	43,159	14	608,512	8
10	SCIENTIFIC AND PHOTO. EQUIPMENT	83,208	4,057	7	96,267	9	30,758	10	81,027	8	606,796	9
11	PHARMACEUTICALS	80,635	11,915	2	81,581	11	41,495	7	275,680	1	467,373	12
12	BEVERAGES	56,581	4,323	6	60,569	13	22,799	11	99,228	7	482,039	11
13	METALS	56,368	(822)	24	61,753	12	14,771	14	24,016	18	324,743	13
14	SOAPS, COSMETICS	52,462	2,427	9	32,330	17	12,949	15	53,945	12	217,907	16
15	PUBLISHING, PRINTING	35,470	2,307	11	48,369	16	23,373	12	57,783	10	275,684	14
16	METAL PRODUCTS	33,349	1,254	15	29,038	18	11,204	16	35,701	15	252,863	15
17	MINING, CRUDE-OIL PRODUCTION	31,095	2,038	13	57,888	14	17,377	14	25,032	16	114,687	23
18	TOBACCO	30,836	1,472	12	50,300	15	13,692	16	27,586	16	132,219	22
19	BUILDING MATERIALS	27,237	(802)	23	28,115	19	4,688	19	18,365	19	205,251	17
20	RUBBER AND PLASTICS PRODUCTS	20,828	528	18	15,313	20	6,249	18	17,137	20	166,074	19
21	APPAREL	18,205	776	17	12,552	21	4,770	20	12,097	21	203,974	18
22	TEXTILES	16,022	(65)	21	10,769	22	2,416	22	4,896	23	150,742	20
23	FURNITURE	14,170	15	20	9,434	23	2,247	23	6,070	22	133,617	21
24	TRANSPORTATION EQUIPMENT	6,754	(21)	19	4,534	24	1,945	24	3,781	25	48,784	24
25	TOYS, SPORTING GOODS	3,791	194	17	3,011	25	1,394	25	4,099	24	23,009	25
26	JEWELRY, SILVERWARE	860	64	18	530	26	296	26	1,426	26	9,847	26
	TOTAL	2,282,852	55,138		2,457,852		763,211		1,740,778		11,973,236	

CONTINUED

THE 500 BY STATE

How many of the 500 are in your state? How do you reach them if you have something to sell or want information? These tables tell you. They also reveal how corporate America has dispersed over time. Once New York was the unchallenged leader in corporate headquarters, and Illinois a solid second. Now California and Texas are close contenders. Texas has made the biggest gains recently, capturing such companies as Exxon from New York and Insilco from Connecticut. Prominence does not mean dominance: The biggest companies in Michigan (GM, Ford, and Chrysler) and New York (IBM) were also the biggest losers.

Jobs don't necessarily follow the boss. "Headquarters" used to mean a skyscraper full of people. Now a few top managers can run a decentralized company.

WHERE THE HEADQUARTERS ARE

RANK		1991	5 yrs. ago	10 yrs. ago	25 yrs. ago
1	NEW YORK	56	66	89	156
2	ILLINOIS	46	50	53	56
3	CALIFORNIA	44	38	41	32
4	TEXAS	39	31	26	7
5	OHIO	34	36	35	42
6	PENNSYLVANIA	34	36	39	45
7	CONNECTICUT	28	32	32	10
8	NEW JERSEY	22	25	21	16
9	MICHIGAN	20	20	21	21
10	MINNESOTA	16	17	15	13
11	MASSACHUSETTS	15	18	15	11
12	VIRGINIA	13	12	4	4
13	MISSOURI	12	14	13	13
14	WISCONSIN	12	12	14	15
15	GEORGIA	11	13	6	2
16	INDIANA	11	7	7	11
17	FLORIDA	7	8	4	1
18	COLORADO	6	5	5	2
19	ALABAMA	5	4	2	3
20	IOWA	5	3	1	3
21	NORTH CAROLINA	5	4	7	7
22	OREGON	5	4	6	2
23	WASHINGTON	5	4	3	3
24	ARKANSAS	4	3	2	1
25	DELAWARE	4	4	3	2
26	LOUISIANA	4	2	2	–
27	MARYLAND	4	5	6	2
28	OKLAHOMA	4	5	5	4
29	RHODE ISLAND	4	3	1	2
30	SOUTH CAROLINA	4	2	4	2
31	DISTRICT OF COLUMBIA	3	2	1	–
32	NEBRASKA	3	2	1	2
33	ARIZONA	2	1	2	1
34	KANSAS	2	2	3	2
35	KENTUCKY	2	2	3	1
36	NEW HAMPSHIRE	2	2	2	–
37	TENNESSEE	2	3	4	1
38	WEST VIRGINIA	2	1	–	1
39	IDAHO	1	1	1	1
40	MISSISSIPPI	1	–	–	–
41	UTAH	1	–	–	–

States without headquarters are not listed.

THE FAVORITE CITIES

Cities with more than five headquarters

1	NEW YORK	39	50	73	137
2	CHICAGO	19	21	28	38
3	HOUSTON	16	12	12	1
4	DALLAS	12	13	12	5
5	CLEVELAND	11	9	10	17
6	PITTSBURGH	11	14	19	20
7	STAMFORD, CONN.	9	10	11	1
8	MINNEAPOLIS	8	9	7	8
9	ST. LOUIS	8	9	11	11
10	LOS ANGELES	7	7	12	6
11	ATLANTA	6	8	3	1
12	RICHMOND	6	7	4	2

THE 500 BY

STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
ALABAMA 5 COMPANIES							
1	INTERGRAPH	300	1,204.7	71.1	1	Huntsville 205-730-2000	James W. Meadlock
2	SCI SYSTEMS	314	1,128.9	12.6	4	Huntsville 205-882-4800	Olin B. King
3	VULCAN MATERIALS	336	1,009.0	52.6	3	Birmingham 205-877-3000	Herbert A. Sklenar
4	RUSSELL	396	804.6	56.8	2	Alexander City 205-329-4000	Eugene C. Gwaltney
5	BLOUNT	439	672.7	2.2	5	Montgomery 205-244-4000	Winton M. Blount
TOTAL			4,819.9	195.4			
MEDIAN			1,009.0	52.6			
ARIZONA 2 COMPANIES							
1	PHELPS DODGE	180	2,461.0	272.9	1	Phoenix 602-234-8100	Douglas C. Yearley
2	MAGMA COPPER	415	724.8	(120.5)	2	Tucson 602-575-5600	J. Burgess Winter
TOTAL			3,185.8	152.4			
ARKANSAS 4 COMPANIES							
1	TYSON FOODS	120	3,922.1	145.5	1	Springdale 501-756-4000	Leland E. Tollett
2	MURPHY OIL	223	1,877.3	(11.2)	3	El Dorado 501-862-6411	Jack W. McNutt
3	HUDSON FOODS	409	765.3	8.5	2	Rogers 501-636-1100	James T. Hudson
4	RICELAND FOODS	450	640.6	N.A.		Stuttgart 501-673-5500	Richard E. Bell
TOTAL			7,205.3	142.8			
MEDIAN			1,321.3				
CALIFORNIA 44 COMPANIES							
1	CHEVRON	10	36,795.0	1,293.0	1	San Francisco 415-894-7700	Kenneth T. Derr
2	ATLANTIC RICHFIELD	23	17,683.0	709.0	4	Los Angeles 213-486-3511	Lodwrick M. Cook
3	HEWLETT-PACKARD	26	14,541.0	755.0	3	Palo Alto 415-857-1501	John A. Young
4	ROCKWELL INTERNATIONAL	35	12,027.9	600.5	6	Seal Beach 310-797-3311	Donald R. Beall
5	OCCIDENTAL PETROLEUM	43	10,304.8	459.9	5	Los Angeles 213-208-8800	Ray R. Irani
6	LOCKHEED	47	9,809.0	308.0	7	Calabasas 818-876-2000	Daniel M. Tellep
7	UNOCAL	48	9,780.0	73.0	18	Los Angeles 213-977-7600	Richard J. Stegemeier
8	APPLE COMPUTER	81	6,308.8	309.8	8	Cupertino 408-996-1010	John Sculley
9	NORTHROP	97	5,706.0	200.8	9	Los Angeles 310-553-6262	Kent Kresa
10	LITTON INDUSTRIES	99	5,313.3	63.5	23	Beverly Hills 310-859-4000	Orion L. Hoch
11	LEVI STRAUSS ASSOCIATES	104	4,902.9	356.7	10	San Francisco 415-544-6000	Robert D. Haas
12	INTEL	106	4,778.6	818.6	2	Santa Clara 408-765-8080	Andrew S. Grove
13	TIMES MIRROR	130	3,624.1	82.0	16	Los Angeles 213-237-3700	Robert F. Erburu
14	SUN MICROSYSTEMS	146	3,259.8	190.3	11	Mountain View 415-960-1300	Scott G. McNealy
15	TELEDYNE	147	3,217.8	(25.4)	30	Los Angeles 213-277-3311	William P. Rutledge
16	SEAGATE TECHNOLOGY	166	2,691.4	67.5	19	Scotts Valley 408-438-6550	Alan F. Shugart
17	WICKES	171	2,621.9	(91.6)	41	Santa Monica 213-394-5757	J. R. Birle R. B. McKeon
18	AVERY DENNISON	175	2,545.1	63.0	22	Pasadena 818-304-2000	Charles D. Miller
19	TANDEM COMPUTERS	217	1,939.7	35.2	25	Cupertino 408-285-6000	James G. Treybig
20	NATIONAL SEMICONDUCTOR	229	1,711.2	(151.4)	42	Santa Clara 408-721-5000	Gilbert F. Amelio
21	AMDAHL	233	1,702.5	10.6	33	Sunnyvale 408-746-6000	John C. Lewis
22	MATTEL	241	1,650.0	112.8	14	El Segundo 310-524-2000	John W. Amerman
23	CLOROX	243	1,646.5	52.7	24	Oakland 510-271-7000	Charles R. Weaver
24	CONNER PERIPHERALS	248	1,626.5	92.5	13	San Jose 408-456-4500	Finis F. Conner
25	DEL MONTE	267	1,435.0	(27.0)	31	San Francisco 415-442-4000	A. Ewan Macdonald
26	FLEETWOOD ENTERPRISES	270	1,415.2	30.4	27	Riverside 714-351-3500	John C. Crean

CONTINUED

THE 500 BY

STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
27	ROHR	273	1,386.2	30.5	30	Chula Vista 619-691-4111	Robert H. Goldsmith
28	VARIAN ASSOCIATES	274	1,380.7	57.5	23	Palo Alto 415-493-4000	J. Tracy O'Rourke
29	RAYCHEM	291	1,249.5	(23.4)	35	Menlo Park 415-361-3333	Robert J. Saldich
30	POTLATCH	294	1,242.5	55.8	24	San Francisco 415-576-8800	Richard B. Madden
31	ADVANCED MICRO DEVICES	296	1,226.6	145.3	12	Sunnyvale 408-732-2400	W. J. Sanders III
32	MAGNETEK	312	1,134.3	34.6	28	Los Angeles 310-473-6681	Frank Perna Jr.
33	WESTERN DIGITAL	339	986.2	(134.2)	41	Irvine 714-932-5000	Roger W. Johnson
34	ALLERGAN	354	906.8	(59.5)	39	Irvine 714-752-4500	William C. Shepherd
35	QUANTUM	363	877.7	73.9	17	Milpitas 408-894-4000	William J. Miller
36	MAXTOR	365	875.3	(45.4)	38	San Jose 408-432-1700	Laurence R. Hootnick
37	BECKMAN INSTRUMENTS	373	857.9	38.1	26	Fullerton 714-871-4848	Louis T. Rosso
38	TRI VALLEY GROWERS	388	824.7	N.A.		San Francisco 415-445-1600	James J. Saras
39	LSI LOGIC	422	712.6	8.3	34	Milpitas 408-433-8000	Wilfred J. Corrigan
40	AMGEN	427	705.0	97.9	14	Thousand Oaks 805-499-5725	Gordon M. Binder
41	AST RESEARCH	431	696.7	64.7	20	Irvine 714-727-4141	Safi U. Qureshey
42	APPLIED MATERIALS	448	643.6	26.2	32	Santa Clara 408-727-5555	James C. Morgan
43	SUN-DIAMOND GROWERS	466	602.9	N.A.		Pleasanton 510-463-8200	Larry D. Busboom
44	SILICON GRAPHICS	488	557.3	32.9	29	Mountain View 415-960-1980	Edward R. McCracken
TOTAL			185,903.7	8,792.7			
MEDIAN			1,648.2	63.3			

COLORADO 6 COMPANIES

1	TOTAL PETROLEUM	176	2,516.1	(11.5)	5	Denver 303-291-2000	Philippe Dunoyer
2	MANVILLE	202	2,100.0	N.A.		Denver 303-978-2000	W. Thomas Stephens
3	ADOLPH COORS	220	1,918.4	25.5	4	Golden 303-279-6565	William K. Coors
4	CYPRUS MINERALS	238	1,659.3	42.7	3	Englewood 303-643-5000	Calvin A. Campbell Jr.
5	STORAGE TECHNOLOGY	239	1,653.3	93.1	2	Louisville 303-673-5151	Ryal R. Poppa
6	NEWMONT MINING	434	683.5	94.3	1	Denver 303-863-7414	Gordon R. Parker
TOTAL			10,530.7	244.1			
MEDIAN			1,788.9	42.7			

CONNECTICUT 28 COMPANIES

1	GENERAL ELECTRIC	5	60,236.0	2,636.0	1	Fairfield 203-373-2211	John F. Welch Jr.
2	UNITED TECHNOLOGIES	16	21,262.0	(1,021.0)	28	Hartford 203-728-7000	Robert F. Daniell
3	XEROX	22	17,830.0	454.0	8	Stamford 203-968-3000	Paul A. Allaire
4	AMERICAN BRANDS	61	8,379.0	806.1	2	Old Greenwich 203-698-5000	William J. Alley
5	UNION CARBIDE	66	7,346.0	(28.0)	24	Danbury 203-794-2000	Robert D. Kennedy
6	CHAMPION INTERNATIONAL	105	4,786.4	40.3	16	Stamford 203-358-7000	Andrew C. Sigler
7	PITNEY BOWES	137	3,417.1	295.3	4	Stamford 203-356-5000	George B. Harvey
8	OLIN	191	2,290.0	(13.0)	22	Stamford 203-356-2000	John W. Johnstone Jr.
9	TOSCO	212	1,986.6	75.4	9	Stamford 203-977-1000	Thomas D. O'Malley
10	STANLEY WORKS	213	1,962.2	82.6	8	New Britain 203-225-5111	Richard H. Ayers
11	ECHLIN	234	1,694.9	41.7	19	Branford 203-481-5751	F. J. Mancheski
12	GENERAL SIGNAL	251	1,620.0	54.2	13	Stamford 203-357-8800	Edmund M. Carpenter
13	DURACELL INTERNATIONAL	260	1,524.1	(34.2)	26	Bethel 203-796-4000	C. Robert Kidder
14	BOWATER	285	1,290.5	45.6	15	Darien 203-656-7200	Anthony P. Gammie
15	FIRST BRANDS	321	1,073.0	46.2	12	Danbury 203-731-2300	Alfred E. Dudley
16	ITT RAYONIER	343	978.9	44.3	14	Stamford 203-348-7000	Ronald M. Gross
17	DEXTER	347	944.5	(7.1)	21	Windsor Locks 203-627-9051	K. Grahame Walker
18	PERKIN-ELMER	361	880.4	(15.6)	23	Norwalk 203-762-1000	Gaynor N. Kelley
19	UST	362	879.5	265.9	5	Greenwich 203-661-1100	Louis F. Bantle
20	UNITED STATES SURGICAL	375	843.6	91.2	6	Norwalk 203-845-1000	Leon C. Hirsch
21	UCC INVESTORS HOLDING	381	832.3	(31.7)	25	Middlebury 203-573-2600	Robert J. Mazaika
22	CRYSTAL BRANDS	390	826.9	(71.4)	29	Southport 203-254-4200	Richard F. Kral
23	KAMAN	408	780.4	17.0	18	Bloomfield 203-243-8100	Charles H. Kaman
24	HUBBELL	417	768.5	90.6	7	Orange 203-799-4100	G. J. Ratcliffe Jr.
25	SILGAN	436	678.6	9.3	33	Stamford 203-975-7110	D. Greg Horrigan
26	LOCTITE	442	574.6	71.9	10	Hartford 203-520-5000	Kenneth W. Butterworth

CONTINUED

THE 500 BY

STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
27	BARNES GROUP	495	538.3	15.9	18	Bristol 203-583-7070	William R. Fenoglio
28	AMERICAN MAIZE-PRODUCTS	497	533.6	11.3	19	Stamford 203-356-9000	William Ziegler III
TOTAL			146,757.8	3,972.8			
MEDIAN			1,181.8	43.0			
DELAWARE 4 COMPANIES							
1	E.I. DU PONT DE NEMOURS	8	38,031.0	1,403.0	1	Wilmington 302-774-1000	Edgar S. Woolard Jr.
2	HERCULES	157	2,928.9	94.9	2	Wilmington 302-594-5000	Thomas L. Gossage
3	E.W. SCRIPPS	284	1,299.6	64.6	3	Wilmington 302-478-4141	Lawrence A. Leser
4	DU PONT MERCK PHARM.	400	795.4	N.A.		Wilmington 302-992-5000	Joseph A. Mollica
TOTAL			43,054.9	1562.5			
MEDIAN			2,114.3				
DISTRICT OF COLUMBIA 3 COMPANIES							
1	WASHINGTON POST	271	1,399.2	70.8	1	Washington 202-334-6000	Donald E. Graham
2	DANAHER	380	837.4	13.3	2	Washington 202-828-0850	George M. Sherman
3	HARMAN INTL. INDUSTRIES	473	586.9	(19.8)	3	Washington 202-393-1101	Sidney Harman
TOTAL			2,823.5	64.4			
FLORIDA 7 COMPANIES							
1	W.R. GRACE	73	6,949.1	218.6	1	Boca Raton 407-362-2000	J. Peter Grace
2	HARRIS	151	3,081.5	19.5	5	Melbourne 407-727-9100	John T. Hartley
3	KNIGHT-RIDDER	193	2,243.8	132.1	2	Miami 305-376-3800	James K. Batten
4	WALTER INDUSTRIES	281	1,327.5	14.5	6	Tampa 813-871-4811	C. Robert Durham
5	DWG	297	1,222.3	(16.9)	7	Miami Beach 305-866-7771	Victor Posner
6	ANCHOR GLASS CONTAINER	307	1,166.5	21.7	4	Tampa 813-884-0000	Frederico Soda
7	ST. JOE PAPER	465	608.3	27.6	3	Jacksonville 904-396-6600	Winfred L. Thornton
TOTAL			16,599.0	417.1			
MEDIAN			1,327.5	21.7			
GEORGIA 11 COMPANIES							
1	COCA-COLA	37	11,571.6	1,618.0	1	Atlanta 404-676-2121	Roberto C. Goizueta
2	GEORGIA-PACIFIC	38	11,524.0	(142.0)	9	Atlanta 404-521-4000	T. Marshall Hahn Jr.
3	COCA-COLA ENTERPRISES	116	4,050.8	(82.4)	8	Atlanta 404-676-2100	Summerfield K. Johnston Jr.
4	WEST POINT-PEPPERELL	246	1,634.1	N.A.		West Point 404-645-4000	William Farley
5	SHAW INDUSTRIES	252	1,607.8	33.1	4	Dalton 404-278-3812	Robert E. Shaw
6	NATIONAL SERVICE INDUST.	254	1,601.7	32.2	5	Atlanta 404-853-1000	Sidney Kirschner
7	GOLD KIST	287	1,268.2	N.A.		Atlanta 404-393-5000	Harry O. Chitwood
8	SAVANNAH FOODS & INDUST.	302	1,203.0	38.3	3	Savannah 912-234-1261	William W. Sprague Jr.
9	GEORGIA GULF	379	838.3	61.5	2	Atlanta 404-395-4500	Jerry R. Satrum
10	FLOWERS INDUSTRIES	384	831.2	24.0	6	Thomasville 912-226-9110	Amos R. McMullian
11	INTERFACE	475	581.8	8.9	7	LaGrange 404-882-1891	Ray C. Anderson
TOTAL			36,712.6	1,591.6			
MEDIAN			1,601.7	32.2			
IDAHO 1 COMPANY							
1	BOISE CASCADE	117	4,043.7	(79.4)	1	Boise 208-384-6161	John B. Fery
TOTAL			4,043.7	(79.4)			
ILLINOIS 46 COMPANIES							
1	AMOCO	14	25,604.0	1,484.0	1	Chicago 312-856-6111	H. Laurance Fuller
2	SARA LEE	33	12,456.3	535.0	4	Chicago 312-726-2600	John H. Bryan
3	MOTOROLA	39	11,341.0	454.0	6	Schaumburg 708-576-5000	George M.C. Fisher
4	CATERPILLAR	45	10,182.0	(404.0)	44	Peoria 309-675-1000	Donald V. Fites

CONTINUED

THE 500 BY

STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
5	BAXTER INTERNATIONAL	55	8,921.0	591.0	3	Deerfield 708 948 2000	Vernon R. Loucks Jr.
6	ARCHER-DANIELS-MIDLAND	60	8,567.7	466.7	5	Decatur 217 424 5200	Dwayne O. Andreas
7	DEERE	72	7,055.2	(20.2)	34	Moline 309 765 8000	Hans W. Becherer
8	ABBOTT LABORATORIES	74	6,921.7	1,088.7	2	Abbott Park 708 937 6100	Duane L. Burnham
9	QUAKER OATS	89	6,101.2	205.8	7	Chicago 312 222 7111	William D. Smithburg
10	STONE CONTAINER	98	5,398.6	(49.1)	37	Chicago 312 346 6600	Roger W. Stone
11	FMC	119	3,931.5	163.9	10	Chicago 312 861 6000	Robert N. Burt
12	R.R. DONNELLEY & SONS	121	3,914.8	204.9	8	Chicago 312 326 8000	John R. Walter
13	NAVISTAR INTERNATIONAL	136	3,487.0	(165.0)	41	Chicago 312 836 2000	James C. Cotting
14	INLAND STEEL INDUSTRIES	139	3,404.5	(275.1)	43	Chicago 312 346 0300	Frank W. Luerssen
15	WHITMAN	161	2,866.2	97.6	19	Rolling Meadows 708 818 5000	James W. Cozad
16	PREMARK INTERNATIONAL	163	2,815.7	102.3	18	Deerfield 708 405 6000	Warren L. Batts
17	ILLINOIS TOOL WORKS	169	2,647.3	180.6	9	Glenview 708 724 7500	John D. Nichols
18	DEAN FOODS	197	2,159.5	72.5	22	Franklin Park 312 625 6200	Howard M. Dean
19	BRUNSWICK	204	2,088.3	(23.7)	35	Skokie 708 470 4700	Jack F. Reichert
20	TRIBUNE	206	2,034.7	142.0	11	Chicago 312 222 9100	Charles T. Brumback
21	MORTON INTERNATIONAL	219	1,920.8	138.3	12	Chicago 312 807 2000	Charles S. Locke
22	USG	224	1,840.0	(161.0)	40	Chicago 312 606 4000	Eugene B. Connolly
23	SUNDSTRAND	230	1,708.5	108.8	17	Rockford 815 226 6000	Harry C. Stonecipher
24	IMCERA GROUP	244	1,646.4	88.2	21	Northbrook 708 564 8600	George D. Kennedy
25	FRUIT OF THE LOOM	247	1,628.1	111.0	16	Chicago 312 876 1724	William Farley
26	NALCO CHEMICAL	277	1,356.4	137.8	13	Naperville 708 305 1000	W. H. Clark
27	GREAT AMER. MGMT. & INV.	280	1,330.3	37.7	25	Chicago 312 648 5656	Samuel Zell
28	ZENITH ELECTRONICS	282	1,321.6	(51.6)	38	Glenview 708 391 7000	Jerry K. Pearlman
29	HARTMARX	298	1,215.3	(38.4)	36	Chicago 312 372 6300	Harvey A. Weinberg
30	WM. WRIGLEY JR.	308	1,159.8	128.7	14	Chicago 312 644 2121	William Wrigley
31	IMC FERTILIZER GROUP	313	1,133.3	95.8	20	Northbrook 708 272 9200	Billie B. Turner
32	NEWELL	316	1,118.9	112.2	15	Freeport 815 235 4171	Daniel C. Ferguson
33	PITTWAY	340	983.9	25.5	28	Chicago 312 831 1070	King Harris
34	OUTBOARD MARINE	341	983.6	(84.3)	39	Waukegan 708 689 6200	James C. Chapman
35	HELENE CURTIS INDUSTRIES	355	891.9	1.7	31	Chicago 312 661 0222	Ronald T. Gidwitz
36	ALBERTO-CULVER	367	873.7	30.1	27	Melrose Park 708 450 3000	Leonard H. Levin
37	AM INTERNATIONAL	371	860.0	8.8	30	Chicago 312 558 1966	Merle H. Banta
38	AMSTED INDUSTRIES	391	817.2	17.8	29	Chicago 312 645 1700	Gordon R. Lohman
39	CF INDUSTRIES	398	803.1	N.A.		Long Grove 708 438 9500	Robert C. Liuzzi
40	GAYLORD CONTAINER	416	723.8	(180.3)	42	Deerfield 708 405 5500	Marvin A. Pomerantz
41	MOLEX	418	715.7	64.6	23	Lisle 708 969 4550	Frederick A. Krehbiel
42	INTERLAKE	420	714.7	(13.7)	33	Lisle 708 852 8800	W. R. Reum
43	COMMERCE CLEARING HOUSE	421	713.6	31.0	26	Riverwoods 708 940 4600	Edward L. Massie
44	SAFETY-KLEEN	430	696.9	51.6	24	Elgin 708 697 8460	Donald W. Brinckman
45	PRAIRIE FARMS DAIRY	453	637.7	N.A.		Carlinville 217 854 2541	Leonard J. Southwell
46	BELL & HOWELL	457	625.0	(5.1)	32	Skokie 708 470 7100	William J. White
TOTAL			160,318.5	5,507.1			
MEDIAN			1,677.5	68.6			

INDIANA 11 COMPANIES

1	ELI LILLY	95	5,725.7	1,314.7	1	Indianapolis 317 276 2000	Vaughn D. Bryson
2	CUMMINS ENGINE	138	3,405.5	(14.1)	10	Columbus 812 377 5000	Henry B. Schacht
3	BALL	192	2,267.4	66.2	4	Muncie 317 747 6100	Delmont A. Davis
4	CENTRAL SOYA	209	2,000.4	24.8	7	Fort Wayne 219 425 5100	David M. Swanson
5	ARVIN INDUSTRIES	236	1,679.6	23.2	8	Columbus 812 379 3000	James K. Baker
6	GREAT LAKES CHEMICAL	278	1,347.9	157.5	2	West Lafayette 317 497 6100	Emerson Kampen
7	HILLENBRAND INDUSTRIES	299	1,209.4	89.2	3	Batesville 812 934 7000	W August Hillenbrand
8	CLARK EQUIPMENT	303	1,201.0	(337.5)	11	South Bend 219 239 0100	Leo J. McKernan
9	ESSEX GROUP	357	885.5	13.0	9	Fort Wayne 219 461 4000	Stanley C. Craft
10	ANACOMP	451	639.5	29.2	6	Indianapolis 317 844 9666	Louis P. Ferrero
11	KIMBALL INTERNATIONAL	483	564.7	30.0	5	Jasper 812 482 1600	Douglas A. Habig
TOTAL			20,926.6	1,396.2			
MEDIAN			1,347.9	29.2			

CONTINUED

THE 500 BY

STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
IOWA 5 COMPANIES							
1	MAYTAG	153	2,970.6	79.0	3	Newton 515-792-8000	Daniel J. Krumm
2	INSPIRATION RESOURCES	325	1,061.7	(151.7)	5	Sioux City 712-277-1340	Burton Joyce
3	MEREDITH	411	759.3	83.1	1	Des Moines 515-284-3000	Jack D. Rehm
4	HON INDUSTRIES	462	612.0	32.9	4	Muscatine 319-264-7100	Jack D. Michaels
5	BANDAG	470	593.9	79.6	2	Muscatine 319-262-1400	Martin G. Carver
TOTAL			5,997.5	122.9			
MEDIAN			759.3	79.0			
KANSAS 2 COMPANIES							
1	NATL. COOP. REFINERY ASSN.	368	869.5	N.A.		McPherson 316-241-2340	Larry E. Williams
2	DOSKOCIL	389	820.2	69.3	1	Hutchinson 316-663-1005	John T. Hanes
TOTAL			1,689.7	69.3			
KENTUCKY 2 COMPANIES							
1	ASHLAND OIL	52	9,322.4	145.0	2	Russell 606-329-3333	John R. Hall
2	BROWN-FORMAN	315	1,126.0	145.2	1	Louisville 502-585-1100	W. L. Lyons Brown Jr.
TOTAL			10,448.4	290.2			
LOUISIANA 4 COMPANIES							
1	MCDERMOTT	190	2,299.5	(10.7)	3	New Orleans 504-587-4411	Robert E. Howson
2	FREEPORT-MCMORAN	253	1,603.3	41.0	1	New Orleans 504-582-4000	James R. Moffett
3	LOUISIANA LAND & EXPLOR.	387	825.3	20.9	2	New Orleans 504-566-6500	H. Leighton Steward
4	AVONDALE INDUSTRIES	399	800.0	N.A.		Avondale 504-436-2121	Albert L. Bossier Jr.
TOTAL			5,528.1	51.2			
MEDIAN			1,214.3				
MARYLAND 4 COMPANIES							
1	MARTIN MARIETTA	88	6,106.5	313.1	1	Bethesda 301-897-6000	Norman R. Augustine
2	BLACK & DECKER	109	4,637.0	53.0	3	Towson 301-583-3900	Nolan D. Archibald
3	CROWN CENTRAL PETROLEUM	225	1,764.8	(6.0)	4	Baltimore 301-539-7400	Henry A. Rosenberg Jr.
4	MCCORMICK	269	1,427.9	80.9	2	Sparks 410-771-7301	Charles P. McCormick Jr.
TOTAL			13,936.1	441.1			
MEDIAN			3,200.9	67.0			
MASSACHUSETTS 15 COMPANIES							
1	DIGITAL EQUIPMENT	28	14,024.2	(617.4)	13	Maynard 508-493-5111	Kenneth H. Olsen
2	RAYTHEON	51	9,355.5	591.8	2	Lexington 617-862-6600	Dennis J. Picard
3	GILLETTE	107	4,705.6	427.4	3	Boston 617-421-7000	Alfred M. Zeien
4	EG&G	167	2,691.3	81.2	6	Wellesley 617-237-5100	John M. Kucharski
5	WANG LABORATORIES	201	2,127.1	(385.5)	12	Lowell 508-459-5000	Richard W. Miller
6	POLAROID	203	2,096.0	683.7	1	Cambridge 617-577-2000	I. MacAllister Booth
7	CABOT	256	1,579.9	127.3	4	Boston 617-345-0100	Samuel W. Bodman
8	DR HOLDINGS INC. OF DEL.	272	1,391.1	N.A.		Bedford 617-275-1800	John J. Shields
9	AMOSKEAG	292	1,244.4	1.3	11	Boston 617-262-4000	W. Randle Mitchell Jr.
10	DATA GENERAL	295	1,237.0	85.6	5	Westboro 508-366-8911	Ronald L. Skates
11	OCEAN SPRAY CRANBERRIES	346	946.0	N.A.		Lakeville-Middleboro 508-946-1000	John S. Llewellyn Jr.
12	THERMO ELECTRON	385	830.1	47.1	8	Waltham 617-622-1000	George N. Hatsopoulos
13	MILLIPORE	412	748.0	60.4	7	Bedford 617-275-9200	John A. Gilmartin
14	STANHOME	424	710.2	45.1	9	Westfield 413-562-3631	Alejandro Diaz Vargas
15	ANALOG DEVICES	493	538.5	8.2	10	Norwood 617-329-4700	Ray Stata
TOTAL			44,324.9	1,186.1			
MEDIAN			1,391.1	60.4			

CONTINUED

THE 500 BY STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
MICHIGAN 20 COMPANIES							
1	GENERAL MOTORS	1	123,780.1	(4,452.8)	20	Detroit 313-556-5000	Robert C. Stempel
2	FORD MOTOR	3	88,962.8	(2,258.0)	19	Dearborn 313-322-3000	Harold A. Poling
3	CHRYSLER	11	29,370.0	(795.0)	18	Highland Park 313-956-5741	Lee A. Iacocca
4	DOW CHEMICAL	20	19,305.0	942.0	1	Midland 517-636-1000	Frank P. Popoff
5	WHIRLPOOL	78	6,770.0	170.0	4	Benton Harbor 616-926-5000	David R. Whitwam
6	KELLOGG	92	5,786.6	606.0	2	Battle Creek 616-961-2000	Arnold G. Langbo
7	UPJOHN	135	3,487.7	537.4	3	Kalamazoo 616-323-4000	Theodore Cooper
8	MASCO	148	3,176.6	44.9	7	Taylor 313-274-7400	Richard A. Manoogian
9	DOW CORNING	222	1,877.3	152.9	5	Midland 517-496-4000	Lawrence A. Reed
10	MASCO INDUSTRIES	262	1,501.7	(9.0)	14	Taylor 313-274-7400	Richard A. Manoogian
11	FEDERAL-MOGUL	290	1,251.7	(4.9)	13	Southfield 313-354-7700	Dennis Gormley
12	GERBER PRODUCTS	301	1,203.2	112.8	6	Fremont 616-928-2000	Alfred A. Piergallini
13	TECUMSEH PRODUCTS	304	1,198.4	42.5	8	Tecumseh 517-423-8411	Todd W. Herrick
14	LSS HOLDINGS	319	1,085.3	(33.2)	16	Southfield 313-746-1500	Kenneth L. Way
15	HOLNAM	342	979.3	(95.1)	17	Dundee 313-529-2411	Marc von Wyss
16	HERMAN MILLER	358	884.3	14.1	11	Zeeland 616-772-3300	Richard H. Ruch
17	THORN APPLE VALLEY	390	818.0	19.6	10	Southfield 313-552-0700	Henry S Dorfman
18	SPX	438	673.5	(19.4)	15	Muskegon 616-724-5000	Dale A. Johnson
19	LA-Z-BOY CHAIR	464	609.5	23.4	9	Monroe 313-242-1444	Charles T. Knabusch
20	INTERNATIONAL CONTROLS	482	567.3	5.2	12	Kalamazoo 616-343-6121	David R. Markin
TOTAL			293,288.4	(4,996.6)			
MEDIAN			1,376.7	16.8			
MINNESOTA 16 COMPANIES							
1	MINNESOTA MINING & MFG.	29	13,340.0	1,154.0	1	St. Paul 612-733-1110	L. D. DeSimone
2	GENERAL MILLS	68	7,153.2	472.7	2	Minneapolis 612-540-2311	H. Brewster Atwater Jr.
3	HONEYWELL	83	6,220.9	331.1	3	Minneapolis 612-870-5200	James J. Renier
4	GEO. A. HORMEL	162	2,836.2	86.4	7	Austin 507-437-5611	R. L. Knowlton
5	LAND O'LAKES	181	2,458.1	N.A.		Arden Hills 612-481-2222	Jack Gherty
6	INTERNATIONAL MULTIFOODS	195	2,191.9	35.2	11	Minneapolis 612-340-3300	Anthony Luiso
7	DELUXE	263	1,490.2	182.9	4	St. Paul 612-483-7111	Harold V. Haverty
8	PENTAIR	306	1,170.1	41.1	10	St. Paul 612-636-7920	D. Eugene Nugent
9	BEMIS	310	1,141.6	53.0	9	Minneapolis 612-376-3000	John H. Roe
10	ALLIANT TECHSYSTEMS	328	1,047.1	33.2	12	Edina 612-939-2000	Toby G. Warson
11	MEDTRONIC	331	1,031.1	133.4	5	Minneapolis 612-574-4000	William W. George
12	CRAY RESEARCH	370	862.5	113.0	6	Eagan 612-683-7100	John A. Rollwagen
13	JOSTENS	372	859.9	64.2	8	Minneapolis 612-830-3300	H. William Lurton
14	H.B. FULLER	374	855.3	27.7	13	St. Paul 612-645-3401	Anthony Andersen
15	TORO	423	711.6	9.7	15	Bloomington 612-888-8801	Kendrick B. Melrose
16	VALSPAR	454	632.6	27.7	14	Minneapolis 612-332-7371	C. Angus Wurtele
TOTAL			44,002.2	2,765.2			
MEDIAN			1,155.9	64.2			
MISSISSIPPI 1 COMPANY							
1	FIRST MISSISSIPPI	492	539.1	5.3	1	Jackson 601-948-7550	J. Kelley Williams
TOTAL			539.1	5.3			
MISSOURI 12 COMPANIES							
1	MCDONNELL DOUGLAS	21	18,718.0	423.0	3	St. Louis 314-232-0232	John F. McDonnell
2	ANHEUSER-BUSCH	42	10,996.3	939.8	1	St. Louis 314-577-2000	August A. Busch III
3	MONSANTO	53	8,929.0	296.0	5	St. Louis 314-694-1000	Richard J. Mahoney
4	EMERSON ELECTRIC	64	7,427.0	631.9	2	St. Louis 314-553-2000	Charles F. Knight
5	RALSTON PURINA	65	7,394.2	391.9	4	St. Louis 314-982-1000	William P. Stiritz
6	FARMLAND INDUSTRIES	129	3,652.1	N.A.		Kansas City 816-459-6000	H. D. Cleberg
7	JEFFERSON SMURFIT	156	2,941.6	(77.1)	9	St. Louis 314-746-1100	James Malloy

CONTINUED

THE 500 BY

STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
8	MID-AMERICA DAIRYMEN	226	1,742.4	N.A.		Springfield 417-865-7100	Gary Hanman
9	INTERCO	255	1,597.1	(176.3)	10	St. Louis 314-863-1100	Richard B. Loynd
10	INTERSTATE BAKERIES	317	1,106.7	(8.0)	8	Kansas City 816-561-6600	Charles A. Sullivan
11	LEGGETT & PLATT	320	1,081.8	39.4	6	Carthage 417-358-8131	Harry M. Cornell Jr.
12	KELLWOOD	393	811.5	12.4	7	St. Louis 314-576-3100	William J. McKenna
TOTAL			66,397.7	2,473.0			
MEDIAN			3,298.9	167.7			

NEBRASKA 3 COMPANIES

1	CONAGRA	19	19,504.7	311.2	2	Omaha 402-595-4000	Charles M. Harper
2	BERKSHIRE HATHAWAY	158	2,913.5	439.9	1	Omaha 402-346-1400	Warren E. Buffett
3	AG PROCESSING	369	866.1	N.A.		Omaha 402-496-7809	James Lindsay
TOTAL			23,284.3	751.1			

NEW HAMPSHIRE 2 COMPANIES

1	TYCO LABORATORIES	149	3,107.9	117.5	1	Exeter 603-778-9700	John F. Fort
2	HENLEY GROUP	428	704.0	(661.0)	2	Hampton 603-926-5911	Michael Dingman
TOTAL			3,811.9	(543.5)			

NEW JERSEY 22 COMPANIES

1	JOHNSON & JOHNSON	34	12,447.0	1,461.0	2	New Brunswick 908-524-0400	Ralph S. Larsen
2	ALLIED-SIGNAL	36	11,882.0	(273.0)	21	Morristown 201-455-2000	Lawrence A. Bossidy
3	MERCK	59	8,602.7	2,121.7	1	Rahway 908-594-4000	P. Roy Vagelos
4	HOECHST CELANESE	75	6,856.0	172.0	9	Bridgewater 908-231-2000	Ernest H. Drew
5	CAMPBELL SOUP	82	6,230.1	401.5	4	Camden 609-342-4800	David W. Johnson
6	CPC INTERNATIONAL	84	6,200.0	372.7	5	Englewood Cliffs 201-894-4000	Charles R. Shoemate
7	WARNER-LAMBERT	100	5,166.6	34.8	18	Morris Plains 201-540-2000	Melvin R. Goodes
8	AMERICAN CYANAMID	101	5,039.9	358.8	6	Wayne 201-831-2000	George J. Sella Jr.
9	BASF	103	4,962.2	(47.5)	20	Parsippany 201-397-3300	J. Dieter Stein
10	SCHERING-PLOUGH	126	3,687.8	645.6	3	Madison 201-822-7000	Robert P. Luciano
11	INGERSOLL-RAND	133	3,586.2	150.6	10	Woodcliff Lake 201-573-0123	Theodore H. Black
12	UNION CAMP	154	2,967.1	124.8	11	Wayne 201-628-2000	Raymond E. Cartledge
13	ENGELHARD	184	2,436.4	87.9	12	Iselin 908-205-5000	Orin R. Smith
14	BECTON DICKINSON	196	2,172.2	189.8	8	Franklin Lakes 201-847-6800	Raymond V. Gilmartin
15	ARMCO	249	1,624.0	(336.5)	22	Parsippany 201-316-5200	Robert L. Purdum
16	FEDERAL PAPER BOARD	266	1,435.0	82.4	13	Montvale 201-391-1776	John R. Kennedy Jr.
17	IMO INDUSTRIES	332	1,024.0	11.4	19	Lawrenceville 609-896-7600	William Holcombe
18	GAF	351	925.6	210.4	7	Wayne 201-628-3000	Samuel Heyman
19	C.R. BARD	364	876.0	57.2	14	Murray Hill 908-277-8000	George T. Maloney
20	WELLMAN	395	805.7	45.3	17	Shrewsbury 908-542-7300	Thomas M. Duff
21	THOMAS & BETTS	478	573.3	48.4	16	Bridgewater 908-685-1600	T. Kevin Dunnigan
22	BLOCK DRUG	499	530.9	53.2	15	Jersey City 201-434-3000	Leonard Block
TOTAL			90,030.6	5,972.6			
MEDIAN			3,276.7	106.4			

NEW YORK 56 COMPANIES

1	INTL. BUSINESS MACHINES	4	64,792.0	(2,827.0)	51	Armonk 914-765-1900	John F. Akers
2	PHILIP MORRIS	7	48,109.0	3,006.0	1	New York 212-880-5000	Michael A. Miles
3	TEXACO	9	37,551.0	1,294.0	3	White Plains 914-253-4000	James W. Kinnear
4	PEPSICO	17	19,771.2	1,080.2	5	Purchase 914-253-2000	Wayne Calloway
5	EASTMAN KODAK	18	19,649.0	17.0	40	Rochester 716-724-4000	Kay R. Whitmore
6	RJR NABISCO HOLDINGS	25	14,989.0	368.0	9	New York 212-258-5600	Louis V. Gerstner Jr.
7	INTERNATIONAL PAPER	31	12,703.0	184.0	14	Purchase 914-397-1500	John A. Georges
8	BRISTOL-MYERS SQUIBB	40	11,298.0	2,056.0	2	New York 212-546-4000	Richard L. Gelb
9	UNILEVER U.S.	56	8,855.1	N.A.		New York 212-888-1260	Richard A. Goldstein
10	BORDEN	67	7,235.1	294.9	11	New York 212-573-4000	Anthony S. D'Amato

CONTINUED

THE 500 BY

STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
11	PFIZER	69	7,143.8	722.1	6	New York 212 573 2323	William C. Steere Jr.
12	HANSON INDUSTRIES NA	70	7,103.7	560.2	7	New York 212 759 8477	David H. Clarke
13	AMERICAN HOME PRODUCTS	71	7,102.8	1,375.3	1	New York 212 878 5000	John R. Stafford
14	AMERADA HESS	80	6,416.3	84.3	73	New York 212 997 8500	Leon Hess
15	COLGATE-PALMOLIVE	90	6,093.7	124.9	20	New York 212 310 2000	Reuben Mark
16	NORTH AMERICAN PHILIPS	91	6,064.6	8.1	42	New York 212 850 5000	Stephen C. Tumminello
17	GRUMMAN	118	4,037.9	99.3	21	Bethpage 516 575 0574	Renso L. Caporali
18	AMAX	125	3,771.6	30.2	33	New York 212 856 4200	Allen Born
19	J.E. SEAGRAM	127	3,680.0	536.7	8	New York 212 572 7000	Edgar Bronfman Jr.
20	AMERICAN STANDARD	131	3,595.3	(143.2)	49	New York 212 703 5100	Emmanuel A. Kampouris
21	AVON PRODUCTS	132	3,593.3	135.7	18	New York 212 546 6015	James E. Preston
22	AGWAY	134	3,489.8	N.A.		DeWitt 315 449 7061	Charles F. Saul
23	CORNING	143	3,286.8	316.8	10	Corning 607 974 9000	James R. Houghton
24	QUANTUM CHEMICAL	178	2,486.3	(123.3)	48	New York 212 949 5000	John Hoyt Stookey
25	READER'S DIGEST ASSN.	185	2,393.8	209.1	13	Pleasantville 914 238 1000	George V. Grune
26	WESTVACO	188	2,321.8	137.4	17	New York 212 688 5000	John A. Luke
27	DOVER	194	2,195.8	128.2	19	New York 212 922 1640	Gary L. Roubos
28	SEQUA	199	2,136.9	N.A.		New York 212 986 5500	Norman E. Alexander
29	LORAL	200	2,136.0	90.4	22	New York 212 697 1105	Bernard L. Schwartz
30	LIZ CLAIBORNE	207	2,029.3	222.7	9	New York 212 354 4900	Jerome A. Chazen
31	MCGRAW-HILL	216	1,943.0	148.0	16	New York 212 512 2000	Joseph L. Dionne
32	ASARCO	218	1,938.7	46.0	31	New York 212 510 2000	Richard de J. Osborne
33	DOW JONES	227	1,731.6	72.2	28	New York 212 416 2000	Peter R. Kann
34	NEW YORK TIMES	232	1,703.1	47.0	30	New York 212 556 1234	Arthur O. Sulzberger
35	WITCO	243	1,641.0	73.5	27	New York 212 405 5800	William R. Toller
36	BAUSCH & LOMB	259	1,535.5	27.6	34	Rochester 716 338 6000	Daniel E. Gill
37	COLTEC INDUSTRIES	275	1,373.0	83.8	24	New York 212 940 0400	David I. Margolis
38	CRANE	283	1,302.5	22.7	38	New York 212 415 7300	Robert S. Evans
39	BROOKE GROUP	299	1,255.9	N.A.		New York 212 486 4150	Bennett S. LeBow
40	DRESSER-RAND	305	1,192.4	N.A.		Corning 607 937 4400	William E. Bradford
41	DOMINO SUGAR	326	1,057.6	N.A.		New York 212 289 9700	Ed Makin
42	INTL. FLAVORS & FRAGRANCE	333	1,017.0	168.7	15	New York 212 765 5500	Eugene P. Grisanti
43	MARK IV INDUSTRIES	349	937.3	25.6	36	Amherst 716 689 4972	Sal H. Alfiero
44	LESLIE FAY	381	836.6	29.4	35	New York 212 921 4900	John J. Pomerantz
45	PHILLIPS-VAN HEUSEN	394	807.8	26.4	37	New York 212 541 5200	Lawrence S. Phillips
46	GITANO GROUP	405	780.4	(62.5)	47	New York 212 419 0703	Morris Dabah
47	TAMBRANDS	442	666.0	79.0	25	White Plains 914 696 6000	Martin F.C. Emmett
48	PALL	443	663.1	79.9	23	East Hills 516 484 5400	Maurice G. Hardy
49	CARTER-WALLACE	449	642.7	51.8	29	New York 212 339 5000	Henry H. Hoyt Jr.
50	UIS	456	630.0	30.0	32	New York 212 981 7660	Harry Lebensfeld
51	CARLISLE	459	621.2	(8.4)	45	Syracuse 315 474 2500	Stephen P. Munn
52	WARNACO GROUP	479	573.1	(28.4)	46	New York 212 661 1300	Linda J. Wachner
53	GOULDS PUMPS	481	568.8	30.7	32	Seneca Falls 315 568 2811	Stephen V. Ardia
54	PLY GEM	485	561.5	4.0	44	New York 212 832 1550	Jeffrey S. Silverman
55	ALBANY INTERNATIONAL	487	557.7	10.3	41	Albany 518 445 2200	J. S. Standish F. L. McKone
56	STANDARD MOTOR	496	534.8	6.7	43	New York 718 392 0200	Lawrence I. Sills
TOTAL			353,104.3	11,052.0			
MEDIAN			2,136.5	79.5			

NORTH CAROLINA 5 COMPANIES

1	BURLINGTON IND. CAPITAL	205	2,080.9	(68.6)	4	Greensboro 919 379 2000	Frank Greenberg
2	NUCOR	265	1,465.5	64.7	3	Charlotte 704 366 7000	F. Kenneth Iverson
3	STANDARD COMMERCIAL	329	1,046.2	(9.6)	3	Wilson 919 291 5507	J. Alec G. Murray
4	CONE MILLS	429	700.0	N.A.		Greensboro 919 379 6220	Dewey Trogdon
5	GUILFORD MILLS	500	528.8	15.9	2	Greensboro 919 316 4000	Charles A. Hayes
TOTAL			5,821.4	2.4			
MEDIAN			1,046.2	3.1			

CONTINUED

THE 500 BY

STATE

OHIO 24 COMPANIES

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	PROFITS Rank	HEADQUARTERS	CEO
1	PROCTER & GAMBLE	13	27,406.0	1,773.0	1	Cincinnati 513-983-1100	Edwin L. Artzt
2	GOODYEAR TIRE & RUBBER	41	11,046.1	96.6	6	Akron 216-796-2121	Stanley C. Gault
3	TRW	62	7,913.0	(140.0)	30	Cleveland 216-291-7000	Joseph T. Gorman
4	CHIQUITA BRANDS INTL.	110	4,627.4	128.5	3	Cincinnati 513-784-8000	Carl H. Lindner
5	DANA	111	4,591.1	13.5	20	Toledo 419-535-4500	Southwood J. Morcott
6	MEAD	112	4,579.3	6.9	21	Dayton 513-495-6323	Burnell R. Roberts
7	OWENS-ILLINOIS	122	3,852.4	(273.6)	32	Toledo 419-247-5000	Joseph H. Lemieux
8	EATON	128	3,659.0	74.0	9	Cleveland 216-523-5000	William E. Butler
9	OWENS-CORNING FIBERGLAS	164	2,783.0	(742.0)	33	Toledo 419-248-8000	Glen H. Hiner
10	SHERWIN-WILLIAMS	174	2,552.0	128.2	4	Cleveland 216-566-2000	John G. Breen
11	B.F. GOODRICH	179	2,471.6	(80.6)	28	Bath 216-374-2000	John D. Ong
12	PARKER HANNIFIN	182	2,440.8	59.2	10	Cleveland 216-531-3000	Paul G. Schloemer
13	GENCORP	211	1,993.0	32.0	15	Fairlawn 216-869-4200	A. W. Reynolds
14	TRINOVA	235	1,681.2	(184.1)	31	Maumee 419-867-2200	Darryl F. Allen
15	RUBBERMAID	237	1,673.2	162.6	2	Wooster 216-264-6464	Walter W. Williams
16	TIMKEN	242	1,647.4	(35.7)	25	Canton 216-438-3000	W. R. Timken Jr.
17	RELIANCE ELECTRIC	261	1,516.0	34.0	13	Cleveland 216-266-5800	John C. Morley
18	LUBRIZOL	264	1,485.1	123.7	5	Wickliffe 216-943-4200	L. E. Coleman
19	AMERICAN GREETINGS	268	1,431.8	82.5	7	Cleveland 216-252-7300	Morry Weiss
20	NACCO INDUSTRIES	276	1,369.2	20.5	18	Mayfield Heights 216-449-9600	Alfred M. Rankin Jr.
21	FIGGIE INTERNATIONAL	293	1,243.5	30.1	16	Willoughby 216-953-2700	Harry E. Figgie Jr.
22	M.A. HANNA	309	1,150.2	1.9	23	Cleveland 216-589-4000	Martin D. Walker
23	FERRO	324	1,065.6	4.8	22	Cleveland 216-641-8580	Albert C. Bersticker
24	COOPER TIRE & RUBBER	338	1,001.6	79.4	8	Findlay 419-423-1321	Ivan W. Gorr
25	WORTHINGTON INDUSTRIES	366	874.9	44.6	11	Columbus 614-438-3210	John H. McConnell
26	LINCOLN ELECTRIC	375	843.7	N.A.		Cleveland 216-481-8100	George E. Willis
27	CINCINNATI MILACRON	403	787.9	(100.2)	29	Cincinnati 513-841-8100	Daniel J. Meyer
28	A. SCHULMAN	414	740.1	42.3	12	Akron 216-666-3751	Terry L. Haines
29	STANDARD REGISTER	432	693.7	32.7	14	Dayton 513-443-1000	John K. Darragh
30	HUFFY	435	678.9	19.8	19	Miamisburg 513-866-6251	Harry A. Shaw III
31	STANDARD PRODUCTS	452	638.2	(45.6)	26	Cleveland 216-281-8300	James S. Reid Jr.
32	SEALY HOLDINGS	458	623.9	(73.4)	27	Cleveland 216-522-1310	Malcolm Candlish
33	REYNOLDS & REYNOLDS	467	602.0	22.5	17	Dayton 513-443-2000	David R. Holmes
34	EAGLE-PICHER INDUSTRIES	469	599.4	(15.8)	24	Cincinnati 513-721-7010	Thomas E. Petry
TOTAL			102,262.1	1,322.3			
MEDIAN			1,500.5	22.5			

OKLAHOMA 4 COMPANIES

1	PHILLIPS PETROLEUM	32	12,604.0	258.0	1	Bartlesville 918-661-6600	C. J. Silas
2	CITGO PETROLEUM	54	8,921.9	135.7	2	Tulsa 918-495-4000	Ronald E. Hall
3	KERR-MCGEE	142	3,307.0	102.0	4	Oklahoma City 405-270-1313	Frank A. McPherson
4	MAPCO	170	2,646.4	125.9	3	Tulsa 918-581-1800	James E. Barnes
TOTAL			27,479.3	621.6			
MEDIAN			6,114.5	130.8			

OREGON 5 COMPANIES

1	WILLAMETTE INDUSTRIES	208	2,004.5	45.8	4	Portland 503-227-5581	William Swindells
2	LOUISIANA-PACIFIC	228	1,714.2	55.9	2	Portland 503-721-0800	Harry A. Merlo
3	TEKTRONIX	279	1,330.9	48.3	3	Wilsonville 503-627-7111	Jerome J. Meyer
4	NERCO	353	919.6	83.1	1	Portland 503-731-6600	Lawrence E. Heiner
5	PRECISION CASTPARTS	494	538.3	33.4	5	Portland 503-777-3881	Bill C. McCormick
TOTAL			6,507.5	266.6			
MEDIAN			1,330.9	48.3			

CONTINUED

THE 500 BY

STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
PENNSYLVANIA 34 COMPANIES							
1	USX	24	17,163.0	(578.0)	31	Pittsburgh 412-433-1121	Charles A. Corry
2	WESTINGHOUSE ELECTRIC	30	12,794.0	(1,086.0)	33	Pittsburgh 412-244-2000	Paul E. Lego
3	SUN	44	10,246.0	(387.0)	30	Philadelphia 215-977-3000	Robert H. Campbell
4	ALUMINUM CO. OF AMERICA	46	9,981.2	62.7	14	Pittsburgh 412-553-4545	Paul H. O'Neill
5	UNISYS	58	8,696.1	(1,393.3)	34	Blue Bell 215-986-4011	James A. Unruh
6	H.J. HEINZ	79	6,682.1	568.0	1	Pittsburgh 412-456-5700	Anthony J.F. O'Reilly
7	MILES	85	6,197.4	101.0	10	Pittsburgh 412-394-5500	Helge H. Wehmeier
8	PPG INDUSTRIES	96	5,725.2	276.2	3	Pittsburgh 412-434-3131	Vincent A. Sarni
9	SCOTT PAPER	102	5,000.0	(69.9)	27	Philadelphia 215-522-5000	Philip E. Lippincott
10	BETHLEHEM STEEL	115	4,317.9	(767.0)	32	Bethlehem 215-694-2424	Walter F. Williams
11	RHÔNE-POULENC RORER	123	3,824.3	326.5	2	Collegeville 215-454-8000	Robert E. Cawthorn
12	CROWN CORK & SEAL	124	3,807.4	128.1	9	Philadelphia 215-698-5100	William J. Avery
13	AMP	150	3,095.0	259.7	4	Harrisburg 717-564-0100	Harold A. McInnes
14	VF	152	2,988.7	161.3	8	Wyomissing 215-378-1151	Lawrence R. Pugh
15	AIR PRODUCTS & CHEMICALS	155	2,950.4	248.9	5	Allentown 215-481-4911	Dexter F. Baker
16	HERSHEY FOODS	160	2,901.6	219.5	6	Hershey 717-534-4200	Richard A. Zimmerman
17	ROHM & HAAS	165	2,775.0	163.0	7	Philadelphia 215-592-3000	J. Lawrence Wilson
18	ARMSTRONG WORLD INDUST.	183	2,439.3	48.2	15	Lancaster 717-397-0611	William W. Adams
19	NATIONAL STEEL	187	2,329.8	(189.0)	29	Pittsburgh 412-394-4100	Kokichi Hagiwara
20	HARSCO	214	1,956.3	76.5	11	Wormleysburg 717-763-7064	Malcolm W. Gambill
21	YORK INTERNATIONAL	240	1,652.7	(4.3)	23	York 717-771-7890	Robert N. Pokelwaldt
22	CYCLOPS INDUSTRIES	327	1,056.5	(41.2)	26	Pittsburgh 412-343-4000	James Will
23	ALLEGHENY LUDLUM	337	1,004.6	41.1	16	Pittsburgh 412-394-2800	Robert P. Bozzone
24	QUAKER STATE	392	813.6	22.7	21	Oil City 814-676-7676	Jack W. Corn
25	EXIDE	413	742.7	(12.3)	24	Reading 215-378-0500	Arthur M. Hawkins
26	AMETEK	419	715.1	38.0	17	Paoli 215-647-2121	Walter E. Blankley
27	BETZ LABORATORIES	440	670.6	75.5	13	Trevose 215-355-3300	John F. McCaughan
28	JOY TECHNOLOGIES	441	667.5	24.0	19	Pittsburgh 412-562-4500	Marc F. Wray
29	ROBERTSON-CECO	445	651.5	(124.8)	28	Pittsburgh 412-281-3200	John J. O'Malley
30	LUKENS	455	631.4	23.0	20	Coatesville 215-383-2000	R. William Van Sant
31	KENNAMETAL	460	619.5	21.1	22	Latrobe 412-539-5000	Robert L. McGeehan
32	P.H. GLATFELTER	476	577.0	76.0	12	Spring Grove 717-225-4711	T. C. Norris
33	WESTMORELAND COAL	480	570.3	(13.4)	25	Philadelphia 215-545-2500	Pemberton Hutchinson
34	CARPENTER TECHNOLOGY	484	562.5	30.1	18	Reading 215-371-2000	Paul R. Roedel
TOTAL			126,806.0	(1,674.9)			
MEDIAN			2,607.2	34.0			
RHODE ISLAND 4 COMPANIES							
1	TEXTRON	63	7,840.1	299.5	1	Providence 401-421-2800	James F. Hardymon
2	HASBRO	198	2,141.1	81.7	2	Pawtucket 401-431-8697	Alan G. Hassenfeld
3	NORTEK	350	925.8	(27.1)	4	Providence 401-751-1600	Richard L. Bready
4	SUNBEAM/OSTER	356	885.6	48.1	3	Providence 401-831-0050	Paul B. Kazarian
TOTAL			11,792.6	402.2			
MEDIAN			1,533.5	64.9			
SOUTH CAROLINA 4 COMPANIES							
1	SPRINGS INDUSTRIES	221	1,891.3	27.1	2	Fort Mill 803-547-1500	Walter Y. Elisha
2	SONOCO PRODUCTS	231	1,703.9	94.8	1	Hartsville 803-383-7000	Charles W. Coker
3	JPS TEXTILE GROUP	410	761.0	(8.6)	4	Greenville 803-239-3900	Jerry Hunter
4	DELTA WOODSIDE INDUSTRIES	471	590.4	23.9	3	Greenville 803-232-8301	E. Erwin Maddrey II
TOTAL			4,946.6	137.2			
MEDIAN			1,232.5	25.5			

CONTINUED

THE 500 BY STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
TENNESSEE 2 COMPANIES							
1	ARCADIAN	486	558.1	11.8	2	Memphis 901-758-5200	R. James Comeaux
2	CONSTAR INTERNATIONAL	489	548.2	16.8	1	Chattanooga 615-267-2973	Charles F. Casey
TOTAL			1,106.3	28.7			
TEXAS 39 COMPANIES							
1	EXXON	2	103,242.0	5,600.0	1	Irving 214-444-1000	Lawrence G. Rawl
2	SHELL OIL	15	22,201.0	20.0	27	Houston 713-241-6161	Frank H. Richardson
3	TENNECO	27	14,035.0	(732.0)	39	Houston 713-757-2131	Michael H. Walsh
4	COASTAL	49	9,602.8	96.3	12	Houston 713-877-1400	James R. Paul
5	KIMBERLY-CLARK	76	6,830.0	508.3	2	Dallas 214-830-1200	Wayne R. Sanders
6	TEXAS INSTRUMENTS	77	6,812.0	(409.0)	38	Dallas 214-995-2551	Jerry R. Junkins
7	COOPER INDUSTRIES	86	6,162.6	393.2	3	Houston 713-739-5400	Robert Cizik
8	LTV	87	6,117.3	74.1	13	Dallas 214-979-7711	David H. Hoag
9	LYONDELL PETROCHEMICAL	94	5,757.0	222.0	5	Houston 713-652-7200	Bob G. Gower
10	DRESSER INDUSTRIES	108	4,702.3	146.8	7	Dallas 214-740-6000	John J. Murphy
11	FINA	141	3,339.2	42.0	17	Dallas 214-750-2400	Ron W. Haddock
12	COMPAQ COMPUTER	145	3,271.4	130.9	9	Houston 713-370-0670	Eckhard Pfeiffer
13	BAKER HUGHES	159	2,911.9	173.5	6	Houston 713-439-8600	James D. Woods
14	PENNZOIL	168	2,685.1	21.0	25	Houston 713-546-4000	James L. Pate
15	DIAMOND SHAMROCK	172	2,575.9	37.1	18	San Antonio 512-641-6800	Roger R. Hemminghaus
16	TEMPLE-INLAND	177	2,507.1	138.4	8	Diboll 409-829-5511	Clifford J. Grum
17	MAXXAM	189	2,317.3	57.5	14	Houston 713-975-7600	Charles E. Hurwitz
18	E-SYSTEMS	210	1,997.8	109.5	10	Dallas 214-661-1000	E. Gene Keiffer
19	ORYX ENERGY	258	1,537.0	19.0	29	Dallas 214-715-4000	Robert P. Hauptfuhrer
20	TRINITY INDUSTRIES	288	1,263.2	30.1	20	Dallas 214-631-4420	W. Ray Wallace
21	TESORO PETROLEUM	318	1,089.2	3.9	32	San Antonio 512-828-8484	M. Richard Stewart
22	UNION TEXAS PETROLEUM	323	1,069.3	332.8	4	Houston 713-623-6544	A. Clark Johnson
23	VALERO ENERGY	335	1,011.8	98.7	11	San Antonio 512-246-2000	William E. Greehey
24	NL INDUSTRIES	377	841.5	(16.5)	36	Houston 713-987-5000	J. Landis Martin
25	MAXUS ENERGY	401	793.2	(11.2)	34	Dallas 214-953-2000	Charles L. Blackburn
26	MITCHELL ENERGY & DEVEL.	402	791.3	47.3	15	The Woodlands 713-377-5500	George P. Mitchell
27	PILGRIM'S PRIDE	404	787.6	12.3	31	Pittsburg 903-856-7901	Lonnie A. Pilgrim
28	VALHI	408	765.7	24.8	23	Dallas 214-233-1700	Harold C. Simmons
29	IMPERIAL HOLLY	417	717.6	21.0	26	Sugar Land 713-491-9181	Robert C. Hanna
30	BAROID	425	708.1	1.1	33	Houston 713-987-5000	J. Landis Martin
31	VISTA CHEMICAL	426	705.4	19.6	28	Houston 713-588-3000	John D. Burns
32	INSILCO	433	685.7	(14.8)	35	Midland 915-684-4411	Joel L. Reed
33	NCH	437	677.7	43.1	16	Irving 214-438-0251	Irvin L. Levy
34	TEXAS INDUSTRIES	444	654.7	22.1	24	Dallas 214-647-6700	Robert D. Rogers
35	STEWART & STEVENSON SVC.	446	645.8	29.4	21	Houston 713-868-7700	Bob H. O'Neal
36	DR PEPPER/SEVEN-UP	468	600.9	(37.5)	37	Dallas 214-360-7000	John R. Albers
37	QUANEX	472	588.9	12.4	30	Houston 713-961-4600	Carl E. Pfeiffer
38	DELL COMPUTER	490	546.2	27.2	22	Austin 512-338-4400	Michael S. Dell
39	STERLING CHEMICALS	491	542.7	36.8	19	Houston 713-650-3700	J. Virgil Waggoner
TOTAL			224,091.1	7,331.3			
MEDIAN			1,263.2	30.1			
UTAH 1 COMPANY							
1	THIOKOL	286	1,269.8	53.4	1	Ogden 801-629-2270	U. Edwin Garrison
TOTAL			1,269.8	53.4			
VIRGINIA 13 COMPANIES							
1	MOBIL	6	56,910.0	1,920.0	1	Fairfax 703-846-3000	Allen E. Murray
2	GENERAL DYNAMICS	50	9,548.0	505.0	2	Falls Church 703-876-3000	William A. Anders
3	REYNOLDS METALS	93	5,784.5	154.1	5	Richmond 804-281-2000	William O. Bourke

CONTINUED

THE 500 BY

STATE

RANK		500 SALES RANK	SALES $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
4	JAMES RIVER CORP. OF VA.	114	4,561.7	78.3	6	Richmond 804-644-5411	Robert C. Williams
5	GANNETT	140	3,382.0	301.6	3	Arlington 703-284-6000	John J. Curley
6	UNIVERSAL	144	3,274.4	20.2	10	Richmond 804-359-9311	Henry H. Harrell
7	ETHYL	173	2,574.8	206.7	4	Richmond 804-788-5000	Floyd D. Gottwald Jr.
8	LAFARGE	257	1,568.8	(50.4)	12	Reston 703-264-3600	Robert W. Murdoch
9	SMITHFIELD FOODS	322	1,071.8	28.7	7	Smithfield 804-357-4321	Joseph W. Luter III
10	DIBRELL BROTHERS	334	1,012.1	21.2	9	Danville 804-792-7511	Claude B. Owen Jr.
11	CHESAPEAKE	378	840.5	15.4	11	Richmond 804-697-1000	J. Carter Fox
12	FAIRCHILD	461	612.0	28.3	8	Chantilly 703-478-5800	Jeffrey Steiner
13	MEDIA GENERAL	474	585.9	(62.1)	13	Richmond 804-649-6000	J. Stewart Bryan III
TOTAL			91,726.7	3,167.0			
MEDIAN			2,574.8	28.7			
WASHINGTON 5 COMPANIES							
1	BOEING	12	29,314.0	1,567.0	1	Seattle 206-655-2121	Frank Shrontz
2	WEYERHAEUSER	57	8,701.6	(161.9)	5	Tacoma 206-924-2345	John W. Creighton Jr.
3	PACCAR	186	2,376.8	55.2	3	Bellevue 206-455-7400	Charles M. Pigott
4	BURLINGTON RESOURCES	215	1,946.5	205.4	2	Seattle 206-467-3838	Thomas H. O'Leary
5	LONGVIEW FIBRE	447	645.3	16.6	4	Longview 206-425-1550	Richard P. Wollenberg
TOTAL			42,984.1	1,682.2			
MEDIAN			2,376.8	55.2			
WEST VIRGINIA 2 COMPANIES							
1	WEIRTON STEEL	330	1,039.5	(74.7)	2	Weirton 304-797-2000	Herbert Elish
2	WHEELING-PITTSBURGH	344	966.0	4.7	1	Wheeling 304-234-2400	Ronald LaBow
TOTAL			2,005.5	(70.0)			
WISCONSIN 12 COMPANIES							
1	JOHNSON CONTROLS	113	4,566.2	95.1	1	Milwaukee 414-228-1200	James H. Keyes
2	HARNISCHFEGER INDUSTRIES	250	1,623.9	64.6	3	Brookfield 414-671-4400	Jeffery T. Grade
3	FORT HOWARD	311	1,138.2	(110.6)	11	Green Bay 414-435-8821	Donald DeMeuse
4	BRIGGS & STRATTON	345	951.6	36.5	6	Wauwatosa 414-259-5333	Frederick P. Stratton
5	HARLEY-DAVIDSON	348	939.9	37.0	5	Milwaukee 414-342-4680	Richard Teerlink
6	A.O. SMITH	352	921.4	5.0	9	Milwaukee 414-359-4000	Robert J. O'Toole
7	SNAP-ON TOOLS	359	882.8	34.3	7	Kenosha 414-656-5200	Robert A. Cornog
8	CONSOLIDATED PAPERS	360	882.4	91.4	2	Wisconsin Rapids 715-422-3111	George W. Mead
9	UNIVERSAL FOODS	382	834.3	57.8	4	Milwaukee 414-271-6755	Guy A. Osborn
10	TEREX	397	803.2	(33.4)	10	Green Bay 414-435-5322	Randolph W. Lenz
11	BANTA	463	610.4	20.6	8	Menasha 414-722-7777	Calvin W. Aurand Jr.
12	WISCONSIN DAIRIES COOP.	498	533.3	N.A.		Baraboo 608-356-8316	Donald C. Storhoff
TOTAL			14,687.5	298.3			
MEDIAN			902.1	36.5			

CONTINUED

THE 500

INDEX

COMPANY	500 SALES RANK
A	
ABBOTT LABORATORIES	74
ADVANCED MICRO DEVICES	296
AG PROCESSING	369
AGWAY	134
AIR PRODUCTS & CHEMICALS	155
ALBANY INTERNATIONAL	487
ALBERTO-CULVER	367
ALLEGHENY LUDLUM	337
ALLERGAN	354
ALLIANT TECHSYSTEMS	328
ALLIED-SIGNAL	36
ALUMINUM CO. OF AMERICA	46
AMAX	125
AMDAHL	233
AMERADA HESS	80
AMERICAN BRANDS	61
AMERICAN CYANAMID	101
AMERICAN GREETINGS	268
AMERICAN HOME PRODUCTS	71
AMERICAN MAIZE-PRODUCTS	497
AMERICAN STANDARD	131
AMETEK	419
AMGEN	427
AM INTERNATIONAL	371
AMOCO	14
AMOSKEAG	292
AMP	150
AMSTED INDUSTRIES	391
ANACOMP	451
ANALOG DEVICES	493
ANCHOR GLASS CONTAINER	307
ANHEUSER-BUSCH	42
APPLE COMPUTER	81
APPLIED MATERIALS	448
ARCADIAN	486
ARCHER-DANIELS-MIDLAND	60
ARMCO	249
ARMSTRONG WORLD INDUST.	183
ARVIN INDUSTRIES	236
ASARCO	218
ASHLAND OIL	52
AST RESEARCH	431
ATLANTIC RICHFIELD	23
AVERY DENNISON	175
AVONDALE INDUSTRIES	399
AVON PRODUCTS	132
B	
BAKER HUGHES	159
BALL	192
BANDAG	470
BANTA	463
BARD (C.R.)	364
BARNES GROUP	495
BAROID	425
BASF	103
BAUSCH & LOMB	259
BAXTER INTERNATIONAL	55
BECKMAN INSTRUMENTS	373
BECTON DICKINSON	196
BELL & HOWELL	457
BEMIS	310
BERKSHIRE HATHAWAY	158
BETHLEHEM STEEL	115
BETZ LABORATORIES	440
BLACK & DECKER	109
BLOCK DRUG	499
BLOUNT	439
BOEING	12
BOISE CASCADE	117
BORDEN	67
BOWATER	285
BRIGGS & STRATTON	345
BRISTOL-MYERS SQUIBB	40
BROOKE GROUP	289
BROWN-FORMAN	315
BRUNSWICK	204
BURLINGTON INDUST. CAPITAL	205
BURLINGTON RESOURCES	215
C	
CABOT	256
CAMPBELL SOUP	82
CARLISLE	459
CARPENTER TECHNOLOGY	484
CARTER-WALLACE	449
CATERPILLAR	45
CENTRAL SOYA	209
CF INDUSTRIES	398
CHAMPION INTERNATIONAL	105
CHESAPEAKE	378
CHEVRON	10
CHIQUITA BRANDS INTL.	110
CHRYSLER	11
CINCINNATI MILACRON	403
CITGO PETROLEUM	54
CLAIBORNE (LIZ)	207
CLARK EQUIPMENT	303
CLOROX	243
COASTAL	49
COCA-COLA	37
COCA-COLA ENTERPRISES	116
COLGATE-PALMOLIVE	90
COLTEC INDUSTRIES	275
COMMERCE CLEARING HOUSE	421
COMPAQ COMPUTER	145
CONAGRA	19
CONE MILLS	429
CONNER PERIPHERALS	248
CONSOLIDATED PAPERS	360
CONSTAR INTERNATIONAL	489
COOPER INDUSTRIES	86
COOPER TIRE & RUBBER	338
COORS (ADOLPH)	220
CORNING	143
CPC INTERNATIONAL	84
CRANE	283
CRAY RESEARCH	370
CROWN CENTRAL PETROLEUM	225
CROWN CORK & SEAL	124
CRYSTAL BRANDS	386
CUMMINS ENGINE	138
CYCLOPS INDUSTRIES	327
CYPRUS MINERALS	238
D	
DANA	111
DANAHER	380
DATA GENERAL	295
DEAN FOODS	197
DEERE	72
DELL COMPUTER	490
DEL MONTE	267
DELTA WOODSIDE INDUSTRIES	471
DELUXE	263
DEXTER	347
DIAMOND SHAMROCK	172
DIBRELL BROTHERS	334
DIGITAL EQUIPMENT	28
DOMINO SUGAR	326
DONNELLEY (R.R.) & SONS	121
DOSKOCIL	389
DOVER	194
DOW CHEMICAL	20
DOW CORNING	222
DOW JONES	227
DRESSER INDUSTRIES	108
DRESSER-RAND	305
DR HOLDINGS INC. OF DEL.	272
DR PEPPER/SEVEN-UP	468
DU PONT (E.I.) DE NEMOURS	8
DU PONT MERCK PHARM.	400
DURACELL INTERNATIONAL	260
DWG	297
E	
EAGLE-PICHER INDUSTRIES	469
EASTMAN KODAK	18
EATON	128
ECHLIN	234
EG&G	167
EMERSON ELECTRIC	64
ENGELHARD	184
ESSEX GROUP	357
E-SYSTEMS	210
ETHYL	173
EXIDE	413
EXXON	2
F	
FAIRCHILD	461
FARMLAND INDUSTRIES	129
FEDERAL-MOGUL	290
FEDERAL PAPER BOARD	266
FERRO	324
FIGGIE INTERNATIONAL	293
FINA	141
FIRST BRANDS	321
FIRST MISSISSIPPI	492
FLEETWOOD ENTERPRISES	270
FLOWERS INDUSTRIES	384
FMC	119
FORD MOTOR	3
FORT HOWARD	311
FREEPORT-MCMORAN	253
FRUIT OF THE LOOM	247
FULLER (H.B.)	374
G	
GAF	351
GANNETT	140
GAYLORD CONTAINER	416
GENCORP	211
GENERAL DYNAMICS	50
GENERAL ELECTRIC	5
GENERAL MILLS	68
GENERAL MOTORS	1
GENERAL SIGNAL	251
GEORGIA GULF	379
GEORGIA-PACIFIC	38
GERBER PRODUCTS	301
GILLETTE	107
GITANO GROUP	405
GLATFELTER (P.H.)	476
GOLD KIST	287
GOODRICH (B.F.)	179
GOODYEAR TIRE & RUBBER	41
GOULDS PUMPS	481
GRACE (W.R.)	73
GREAT AMER. MGMT. & INVEST.	280
GREAT LAKES CHEMICAL	278
GRUMMAN	118
GUILFORD MILLS	500
H	
HANNA (M.A.)	309
HANSON INDUSTRIES NA	70
HARLEY-DAVIDSON	348
HARMAN INTL. INDUSTRIES	473
HARNISCHFEGER INDUSTRIES	250
HARRIS	151
HARSCO	214
HARTMARX	298
HASBRO	198
HEINZ (H.J.)	79
HELENE CURTIS INDUSTRIES	355
HENLEY GROUP	428
HERCULES	157
HERSHEY FOODS	160
HEWLETT-PACKARD	26
HILLENBRAND INDUSTRIES	299
HOECHST CELANESE	75
HOLNAM	342
HONEYWELL	83
HON INDUSTRIES	462
HORMEL (GEO. A.)	162
HUBBELL	407
HUDSON FOODS	409
HUFFY	435
I	
ILLINOIS TOOL WORKS	169
IMCERA GROUP	244
IMC FERTILIZER GROUP	313
IMO INDUSTRIES	332
IMPERIAL HOLLY	417
INGERSOLL-RAND	133
INLAND STEEL INDUSTRIES	139
INSILCO	433
INSPIRATION RESOURCES	325
INTEL	106
INTERCO	255
INTERFACE	475
INTERGRAPH	300
INTERLAKE	420
INTL. BUSINESS MACHINES	4
INTERNATIONAL CONTROLS	482
INTL. FLAVORS & FRAGRANCES	333
INTERNATIONAL MULTIFOODS	195
INTERNATIONAL PAPER	31
INTERSTATE BAKERIES	317
ITT RAYONIER	343
J	
JAMES RIVER CORP. OF VA.	114
JEFFERSON SMURFIT	156
JOHNSON CONTROLS	113
JOHNSON & JOHNSON	34
JOSTENS	372
JOY TECHNOLOGIES	441
JPS TEXTILE GROUP	410

THE 500

INDEX

COMPANY	500 SALES RANK
K	
KAMAN	406
KELLOGG	92
KELLWOOD	393
KENNAMETAL	460
KERR-MCGEE	142
KIMBALL INTERNATIONAL	483
KIMBERLY-CLARK	76
KNIGHT-RIDDER	193
L	
LAFARGE	257
LAND O'LAKES	181
LA-Z-BOY CHAIR	464
LEGGETT & PLATT	320
LESLIE FAY	381
LILLY (ELI)	95
LINCOLN ELECTRIC	375
LITTON INDUSTRIES	99
LOCKHEED	47
LOCTITE	477
LONGVIEW FIBRE	447
LORAL	200
LOUISIANA LAND & EXPLOR.	387
LOUISIANA-PACIFIC	228
LSI LOGIC	422
LSS HOLDINGS	319
LTV	87
LUBRIZOL	264
LUKENS	455
LYONDELL PETROCHEMICAL	94
M	
MAGMA COPPER	415
MAGNETEK	312
MANVILLE	202
MAPCO	170
MARK IV INDUSTRIES	349
MARTIN MARIETTA	88
MASCO	148
MASCO INDUSTRIES	262
MATTEL	241
MAXTOR	365
MAXUS ENERGY	401
MAXXAM	189
MAYTAG	153
MCCORMICK	269
MCDERMOTT	190
MCDONNELL DOUGLAS	21
MCGRAW-HILL	216
MEAD	112
MEDIA GENERAL	474
MEDTRONIC	331
MERCK	59
MEREDITH	411
MID-AMERICA DAIRYMEN	226
MILES	85
MILLER (HERMAN)	358
MILLIPORE	412
MINNESOTA MINING & MFG.	29
MITCHELL ENERGY & DEVEL.	402
MOBIL	6
MOLEX	418
MONSANTO	53
MORTON INTERNATIONAL	219
MOTOROLA	39
MURPHY OIL	223
N	
NACCO INDUSTRIES	276
NALCO CHEMICAL	277
NATL. COOP. REFINERY ASSN.	368
NATIONAL SEMICONDUCTOR	229
NATIONAL SERVICE INDUST.	254
NATIONAL STEEL	187
NAVISTAR INTERNATIONAL	136
NCH	437
NERCO	353
NEWELL	316
NEWMONT MINING	434
NEW YORK TIMES	232
NL INDUSTRIES	377
NORTEK	350
NORTH AMERICAN PHILIPS	91
NORTHROP	97
NUCOR	265
O	
OCCIDENTAL PETROLEUM	43
OCEAN SPRAY CRANBERRIES	346
OLIN	191
ORYX ENERGY	258
OUTBOARD MARINE	341
OWENS-CORNING FIBERGLAS	164
OWENS-ILLINOIS	122
P	
PACCAR	186
PALL	443
PARKER HANNIFIN	182
PENNZOIL	168
PENTAIR	306
PEPSICO	17
PERKIN-ELMER	361
PFIZER	69
PHELPS DODGE	180
PHILIP MORRIS	7
PHILLIPS PETROLEUM	32
PHILLIPS-VAN HEUSEN	394
PILGRIM'S PRIDE	404
PITNEY BOWES	137
PITTWAY	340
PLY GEM	485
POLAROID	203
POTLATCH	294
PPG INDUSTRIES	96
PRAIRIE FARMS DAIRY	453
PRECISION CASTPARTS	494
PREMARK INTERNATIONAL	163
PROCTER & GAMBLE	13
Q	
QUAKER OATS	89
QUAKER STATE	392
QUANEX	472
QUANTUM	363
QUANTUM CHEMICAL	178
R	
RALSTON PURINA	65
RAYCHEM	291
RAYTHEON	51
READER'S DIGEST ASSN.	185
RELIANCE ELECTRIC	261
REYNOLDS METALS	93
REYNOLDS & REYNOLDS	467
RHÔNE-POULENC RORER	123
RICELAND FOODS	450
RJR NABISCO HOLDINGS	25
ROBERTSON-CECO	445
ROCKWELL INTERNATIONAL	35
ROHM & HAAS	165
ROHR	273
RUBBERMAID	237
RUSSELL	396
S	
SAFETY-KLEEN	430
SARA LEE	33
SAVANNAH FOODS & INDUST.	302
SCHERING-PLOUGH	126
SCHULMAN (A.)	414
SCI SYSTEMS	314
SCOTT PAPER	102
SCRIPPS (E.W.)	284
SEAGATE TECHNOLOGY	166
SEAGRAM (J.E.)	127
SEALY HOLDINGS	458
SEQUA	199
SHAW INDUSTRIES	252
SHELL OIL	15
SHERWIN-WILLIAMS	174
SILGAN	436
SILICON GRAPHICS	488
SMITH (A.O.)	352
SMITHFIELD FOODS	322
SNAP-ON TOOLS	359
SONOCO PRODUCTS	231
SPRINGS INDUSTRIES	221
SPX	438
STANDARD COMMERCIAL	329
STANDARD MOTOR	496
STANDARD PRODUCTS	452
STANDARD REGISTER	432
STANHOME	424
STANLEY WORKS	213
STERLING CHEMICALS	491
STEWART & STEVENSON SVCS.	446
ST. JOE PAPER	465
STONE CONTAINER	98
STORAGE TECHNOLOGY	239
STRAUSS (LEVI) ASSOCIATES	104
SUN	44
SUNBEAM/OSTER	356
SUN-DIAMOND GROWERS	466
SUNDSTRAND	230
SUN MICROSYSTEMS	146
T	
TAMBRANDS	442
TANDEM COMPUTERS	217
TECUMSEH PRODUCTS	304
TEKTRONIX	279
TELEDYNE	147
TEMPLE-INLAND	177
TENNECO	27
TEREX	397
TESORO PETROLEUM	318
TEXACO	9
TEXAS INDUSTRIES	444
TEXAS INSTRUMENTS	77
TEXTRON	63
THERMO ELECTRON	385
THIOKOL	286
THOMAS & BETTS	478
THORN APPLE VALLEY	390
TIMES MIRROR	130
TIMKEN	242
TORO	423
TOSCO	212
TOTAL PETROLEUM	176
TRIBUNE	206
TRINITY INDUSTRIES	288
TRINOVA	235
TRI VALLEY GROWERS	388
TRW	62
TYCO LABORATORIES	149
TYSON FOODS	120
U	
UCC INVESTORS HOLDING	383
UIS	456
UNILEVER U.S.	56
UNION CAMP	154
UNION CARBIDE	66
UNION TEXAS PETROLEUM	323
UNISYS	58
UNITED STATES SURGICAL	376
UNITED TECHNOLOGIES	16
UNIVERSAL	144
UNIVERSAL FOODS	382
UNOCAL	48
UPJOHN	135
USG	224
UST	362
USX	24
V	
VALERO ENERGY	335
VALHI	408
VALSPAR	454
VARIAN ASSOCIATES	274
VF	152
VISTA CHEMICAL	426
VULCAN MATERIALS	336
W	
WALTER INDUSTRIES	281
WANG LABORATORIES	201
WARNACO GROUP	479
WARNER-LAMBERT	100
WASHINGTON POST	271
WEIRTON STEEL	330
WELLMAN	395
WESTERN DIGITAL	339
WESTINGHOUSE ELECTRIC	30
WESTMORELAND COAL	480
WEST POINT-PEPPERELL	246
WESTVACO	188
WEYERHAEUSER	57
WHEELING-PITTSBURGH	344
WHIRLPOOL	78
WHITMAN	161
WICKES	171
WILLAMETTE INDUSTRIES	208
WISCONSIN DAIRIES COOP.	498
WITCO	245
WORTHINGTON INDUSTRIES	366
WRIGLEY (WM. JR.)	308
X	
XEROX	22
Y	
YORK INTERNATIONAL	240
Z	
ZENITH ELECTRONICS	282

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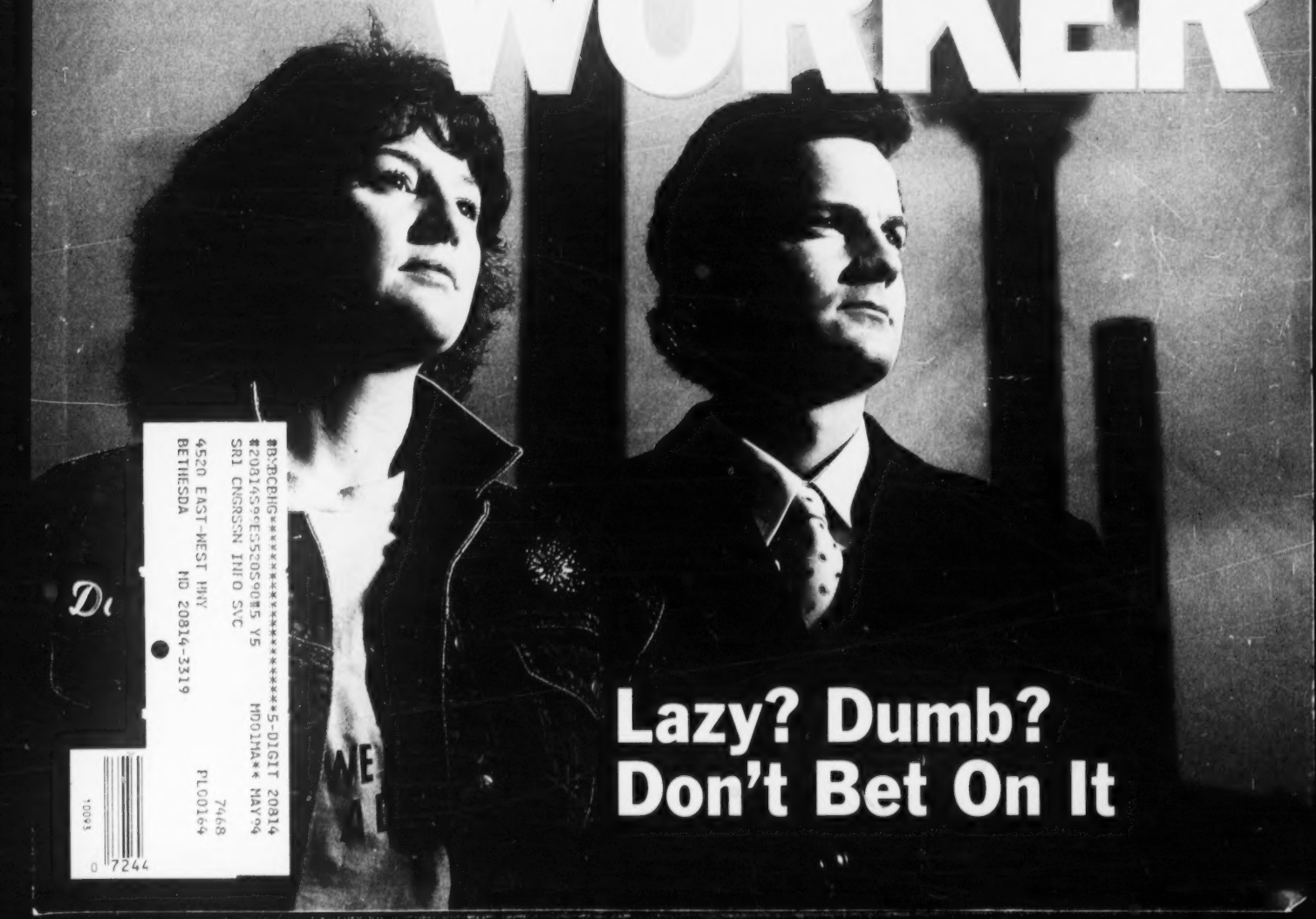
FORTUNE

THE TRUTH ABOUT THE AMERICAN WORKER



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MAY 4, 1992

VOL. 125, NO. 9

FORTUNE

"An organization, with all its greatest muscle—machinery, equipment, money, facilities—can't do anything unless it's got a brain. The brain is the people." 48

THE ECONOMY/COVER STORY

ABOVE: Michael Grundy, an arc furnace operator for Nucor Corp. in Indiana. Photo by Gregory Heisler.

COVER: Darlene Fiorillo, a GM auto assembler, and Steve Magistad, a service rep for IDS Financial Services, also photographed by Heisler.

THE TRUTH ABOUT THE AMERICAN WORKER 48

The men and women who hold down jobs in factories and offices do surprisingly well in the global competitiveness race. Their productivity, highest in the industrial world, is growing faster than Germany's and as fast as Japan's. But they're working longer hours, and real pay has fallen. What they need, and are only starting to get, is management that gives them the right training—and the freedom to use all their talents. *by Myron Magnet*

CORPORATE PERFORMANCE

APPLE'S PLAN TO SURVIVE AND GROW 68

No longer an *enfant terrible* and suffering from present shock, the company is betting on a $3 trillion megamarket that's still years off. How will its alliance with IBM help? *by Andrew Kupfer*

BAUSCH & LOMB: TRUST THE LOCALS, WIN WORLDWIDE 76

Turning overseas managers loose has brought the maker of Ray-Bans and contact lenses eye-opening sales abroad. *by Rahul Jacob*

SCIENCE APPLICATIONS INTL.: TALK ABOUT PAY FOR PERFORMANCE! 77

Tying employee welfare to corporate results has made this defense contractor surprisingly nimble. Look at the results. *by Nancy J. Perry*

COMPANIES TO WATCH 80

As other carriers sputter, Mesa Airlines' austerity is a flight plan for success. *by Richard S. Teitelbaum*

POLITICS & POLICY

BILL CLINTON AS PRESIDENT 85

Plenty will change should he beat George Bush in November. Here's an early look at how he would operate, whom he would listen to, and what he'd be pushing for. *by Ann Reilly Dowd*

THE BABY-BOOMER CANDIDATE 86

MANAGING

THE ROAD AHEAD AT GENERAL MOTORS 94

The board's astounding coup signals clearly that the stodgy old order is dead—and makes GM's prospects the brightest in a decade. *by Alex Taylor III*

"Many people still agree with my grandfather's thinking."

12

"Culturally, IBM will be moving a lot closer to Apple."

68

"When I talk about reinventing government, I mean it, big time."

85

"He's a real bulldog. Once his view develops, off he goes."

94

"He's been described as a visionary, and he clearly was that."

104

"You can throw your mouse out the window, because the pen is the paradigm of the future."

117

TRADE

A DANGEROUS FIX FOR TRADE DEFICITS 96

It's so-called managed trade. While seductive, it won't make America stronger. *by Lee Smith*

SELLING

HOW TO REMAKE YOUR SALES FORCE 98

The customer used to be king; now he's a dictator demanding that you redesign your selling around him. Do you have any choice? *by Patricia Sellers*

ENTREPRENEURS

WHAT WALTON TAUGHT AMERICA 104

The billionaire boy scout of Bentonville, Arkansas, built an empire on a fervid belief in value. That revolutionized retailing. *by Bill Saporito*

INNOVATION

PRODUCTS TO WATCH 107

ASIA

KOREA'S TIGERS KEEP ROARING 108

The conglomerates' response to what they see as the faltering of a fabulous export machine is bringing opportunities for the West. *by Louis Kraar*

TECHNOLOGY

TECHNOLOGY TO WATCH 111

EXECUTIVE LIFE

WHY YOUR COPIER ISN'T WORKING 114

You're not alone. It's only natural for you to want to hit the frustrating machine, but put your mallet down and read this first. *by Alan Farnham*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12

Remember the deficit, candidates; CEO pay (or how Coke buried $80 million); Japan's economy gets scary; how CEOs use time aloft; and more.

FORTUNE FORECAST 21

The states are strapped, but they've got money to build. *by Joseph Spiers*

Economic Intelligence: Why flat (as in tax) is beautiful, will the busters be spenders, and more.

PERSONAL INVESTING 29

Which stocks to avoid in today's hazardous market: an analysis by sector. *by Susan E. Kuhn*

Also: Muni bonds with good yields, and Portfolio Talk with Arthur Bonnel of the MIM Stock Appreciation fund.

LETTERS TO FORTUNE 39

FORTUNE PEOPLE 117

Apple vet Yocam gains Momenta, Kmart CEO gets attention on TV, and more. *by Laurie Kretchmar*

BOOKS & IDEAS 119

Three titles: a volume from Harvard linking a company's values to its performance, a guide to crazy bosses, and a wicked read that bashes Amex.

OFFICE HOURS 121

The leader as servant—think of the dream boss, out to help you be your best. *by Walter Kiechel III*

KEEPING UP *by Daniel Seligman* 123

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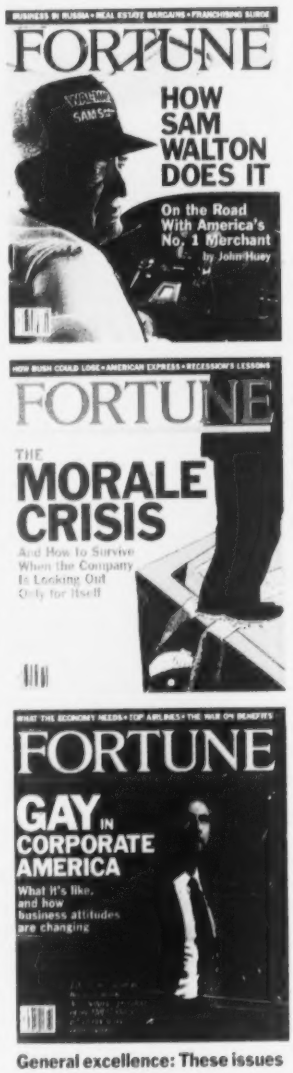
EDITOR'S DESK

IT'S THAT TIME of year again—awards season. In the magazine business, our answer to the Oscars is the National Magazine Awards, sponsored by the American Society of Magazine Editors. And the nearest kin to "best picture" is the coveted award for "general excellence." FORTUNE received this honor in 1988, and this year we have been selected as one of six finalists in our category (circulation 400,000 to one million) out of the hundreds of magazines of that size.

Here's what the ASME screeners said about the three 1991 issues we submitted as our entry: "FORTUNE's investigations may sometimes prove unsettling to readers, but FORTUNE articles speak with the authority of grueling intelligence, and they move readers to action. Articles on gays in corporate America [December 16] and the morale crisis among middle managers [November 18] provide cases in point. In each instance, the magazine probed beneath surface understandings of significant problems facing business, pointing to solutions for forward-looking companies. While daring in tackling controversial issues, FORTUNE also provides insights into individuals and topics of great general interest to people in business. "How Sam Walton Does It" [September 23] is a prime example of basic enterprise journalism that is filled with color, wit, and ideas, and enjoyable to read." Thank you, ASME.



General excellence: These issues earned FORTUNE's nomination in the National Magazine Awards.

FORTUNE has received many other honors lately. Among them, the cover story "Gay in Corporate America," by associate editor Tom Stewart and reporter Mark Fefer, won the award for outstanding achievement in magazine writing from the Gay and Lesbian Alliance Against Defamation. The article is a finalist in the awards competition of the Deadline Club, a.k.a. the New York City chapter of the Society of Professional Journalists. Our ground-breaking report, based on interviews with more than 100 gay men and women, elicited a huge number of letters from readers, overwhelmingly favorable.

FORTUNE's special report on what business can do to alleviate the crisis in America's schools (October 21) won the Benjamin Fine Award for Outstanding Education Reporting from the National Association of Secondary School Principals. This is the second straight year we have earned this award. We have strived to catalyze discussion on this crucial issue through our articles and the annual FORTUNE Education Summit in Washington, D.C., which brings together leading executives and educators to share ideas for change.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October, by Time Inc. Magazine Company, One ... Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., ... A. Ruiz, Treasurer. Henry A. Grunwald, Secretary. Subscriptions: U.S. possessions and, ... one year ($27 issues) $68.13. Second-class postage paid at New York, NY, ... Canada Post International Publications Mail Product (Canadian Distribution) Sales Agreement No. ... Canada Post by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member Audit Bureau of Circulations. POSTMASTER: send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. For subscription queries, call Customer Service at 1-800-621-8000. Phone: 1-800-621-8000. FORTUNE is a registered trademark of The Time Inc. Magazine Co. ... Time Inc. Magazine Company. All rights reserved. FORTUNE and registered trademark of The Time Inc. Magazine Co. ...

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not just health maintenance organizations, effectively employ such managed-care techniques as utilization review and precertification. This is essential in rural areas, where HMOs cannot operate well.

M. JANE HUERTER
Executive Vice President
Mutual of Omaha
Omaha

ECONOMIC PROGRESS VS. ECOLOGY

In "Ecology Battle: North vs. South" (News/Trends, March 9), you say the International Chamber of Commerce wants to preempt the U.N.'s Earth Summit in Rio de Janeiro by holding its own conference beforehand. We prefer to describe our forum as preparing the ground with a realistic assessment of what can be achieved to protect the environment without putting back the clock of economic progress.

Governments cannot cure the world's environmental ills alone. It is for private business worldwide to implement the technological improvements that will make the world cleaner as well as more prosperous.

JOSEPH E. CONNOR
President, International Chamber of Commerce
Chairman, Price Waterhouse World Firm
New York City

ECONOMIC PROGRESS VIA ECOLOGY

Re "How Zealous Greens Hurt Growth . . ." (Fortune Forecast, March 23): In some cases money spent to comply with environmental regulations may indeed reduce employment in the affected industry. But most critiques of such rules that I've seen tend to overlook the most important pollution-control strategy available to us: improved productivity and energy efficiency.

Environmental regulation will hurt us only if it puts us at a competitive disadvantage in the world market—where both Europe and Japan have begun to initiate environmental programs. If American industry wants to compete abroad, it will have to look upon such programs as a business opportunity, not as an economic burden.

JOHN A. LAITNER
Principal
Economic Research Associates
Eugene, Oregon

CORRECTIONS

In "It Was the Worst of Years" (April 20) the chart on the FORTUNE *500's track record should read Current Dollars, not Constant Dollars. And in "The 500 by State" Patrick Danahy has succeeded Dewey Trodgon as CEO of Cone Mills.* F

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THE TRUTH ABOUT THE AMERICAN WORKER

The men and women who run the factories and staff the offices do surprisingly well in the global competitiveness race—but only when managers give them a chance. ■ *by Myron Magnet*

INSULTS HURT MOST when they pierce some secret region of fear and self-doubt. No wonder Americans winced when one of Japan's top politicians sneered earlier this year that U.S. workers are "too lazy" to compete and "cannot even read." For haven't Americans been fretting obsessively over just such anxieties for a decade? Haven't pundits tirelessly preached that failing schools with no standards are producing a shoddily educated generation, that a plague of selfishness and disaffection is undermining the national will? The Japanese politician's contempt brought all these simmering fears bubbling to the surface, explicitly confronting the American public for the first time with this stark question: Can it be that decadence and demoralization really have overtaken the American work force, that the American worker lacks both the knowledge and the character to make late-20th-century technology work its full magic under his or her hands?

DARLENE FIORILLO, 34
Assembler, General Motors
Pontiac, Michigan

"I put them trucks together better than anybody you know."

If so, conventional competitiveness-raising steps such as investment in new plant and equipment can help only so far: A defective work force would cause the nation's power to erode as inexorably as Renaissance Spain's or Victorian England's. Indeed, warns one of the more hysterical prophets of "declinism," the fall is already under way. Is it not emblematic, he asks, that the many American prostitutes working in Tokyo—except for the blondest of them—no longer command a premium for their services, so utterly has the glamour of American power and specialness faded in the eyes of those who know best?

Well, hold the apocalypse, please. The real state of the American worker is very different from this lurid vision. Like everyone else in the new global economy, he or she is struggling to adjust to cataclysmically changed conditions, to a world in which American economic preeminence is no longer unchallenged. From the point of view of the economy as a whole, he is succeeding—so much so that real GDP per person, which grew at an average annual rate of 1.3% between 1979 and 1990, remains the highest in the industrial world, 25% higher than it is in Japan. The paradox is that even as the worker's success augments the national wealth, his own reward hasn't kept pace. As another consequence of the new world economic order, his average real wages have stagnated, even declined.

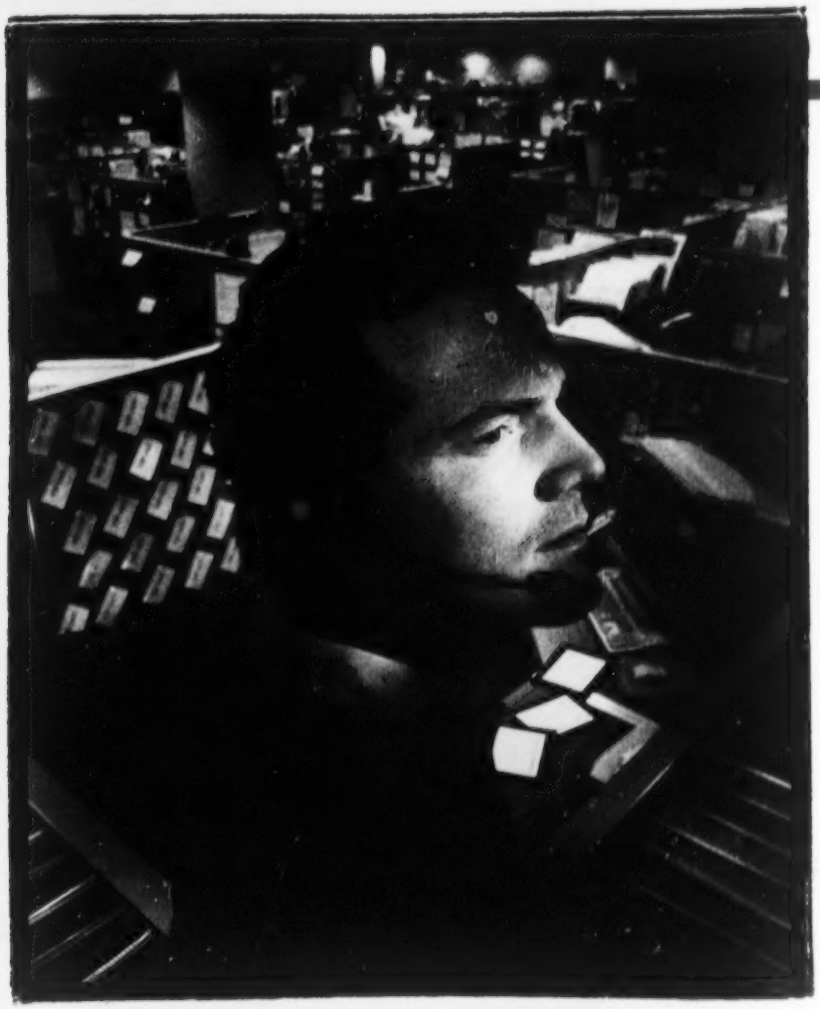
Yet the same formidable global competition is forcing American companies to change in ways that will strengthen the American worker's pride and earning power. Manufacturers especially—which have felt the brunt of the challenge—have turned themselves inside out over the past decade or two to meet it. One radical step many have taken is changing the organization of work to tap more of the worker's faculties than just his hands.

When called upon, workers have measured up. What happens now depends less on them than on their bosses. It depends on company chiefs giving them the training needed to master the technologies of today and tomorrow—and the latitude to use their intelligence fully on the job. More than ever, as Lord White, CEO of Hanson

GARY HARDWICK, 37
Mill Adjuster, Nucor
Crawfordsville, Indiana

"Hopefully, I'll be a supervisor. Everyone here is goal-oriented."

PHOTOGRAPHS BY GREGORY HEISLER



STEVE MAGISTAD, 28
Client Service Representative, IDS
Minneapolis

"My company gives me the chance to go in any number of directions."

PLC's U.S. operations, says, "The men can only be as good as their leaders."

Where does the American worker stand right now? The one luminous measure of how good workers really are is productivity—output of goods and services per person employed—and here the American worker is unequivocally No. 1 among the industrial powers, his overall productivity 30% higher than his Japanese counterpart's and his manufacturing productivity 28% higher. Much rubbish has been written claiming that Japan and the major European nations have surpassed the U.S. in absolute levels of productivity. These claims rest on unadjusted numbers, as misleading as trying to gauge income growth over the years without correcting for inflation.

Exchange rates gyrate wildly, so it is meaningless to make productivity comparisons by taking the yen value of Japan's total output of goods and services, say, and converting it to dollars at current exchange rates. International comparisons make sense only in terms of "purchasing power parity" exchange rates, which peg currencies to their ability to buy a constant basket of goods and services.

Calculated in that way, the U.S. worker's productivity in a wide array of industries looks surprisingly healthy. Everyone knows about the inefficiency of the cosseted Japanese farmer, 52% less productive than the cosseted American farmer. But according to the computations of Harvard economist Dale Jorgenson and his Japanese collaborator, Masahiro Kuroda, Japanese productivity trails that of America by a still wider margin in rubber and plastics, construction, finance, insurance, and real estate. It also lags significantly behind in machinery manufacturing and metal fabricating.

Even productivity in the American automotive industry, Jorgenson calculates, is neck and neck with its Japanese counterpart. However efficient the big Japanese car companies, he points out, they are mostly assembly operations, manufacturing many fewer component parts than the big U.S. automakers. Adding in the less efficient parts suppliers, the industry's productivity is not quite so stellar. Concludes Jorgenson: "The Japanese work force is very high quality, but not as good as ours, measured in terms of the quality of the worker per standardized hour."

THE DECLINISTS are right in saying that American productivity growth dropped off a cliff in the mid-Seventies. But *all* industrialized nations experienced an analogous drop—perhaps due, economists speculate, to the developed world's need to use mountains of capital to adjust to extortionate oil prices.

It's true, too, that productivity expanded more slowly in the U.S. than in other industrial nations for much of the post–World War II era. Since this discrepancy was greatest in the American economy's glorious heyday of the Fifties and Sixties, however, it is scarcely symptomatic of a decline in America or its work force. To the contrary, it was a byproduct of American economic leadership. With undamaged factories and a hoard of technology developed during World War II, the U.S. entered the postwar era with productivity levels four, even five times higher than the ravaged European and Japanese economies, their factories in ruins. Rocketing growth in those nations was a measure of how far they had to come to approach normality. That's why, says economist William Baumol, the industrial countries furthest behind, especially last-ranked Japan, could rebound the fastest. Always playing catch-up, foreign nations could also lift manufacturing productivity by snatching technology the U.S. had already developed.

By the mid-Sixties, as other industrialized countries drew closer to American productivity levels, their gains slowed. In the late Seventies, the German growth rate for manufacturing fell below the American and is still falling. The Japanese rate since 1980 has been virtually identical to the American. International comparisons for services are hazy at best, but in that sector the restructuring that has caused U.S. manufacturing productivity to

REPORTER ASSOCIATE *Andrew Erdman*

grow at well over 3.5% a year since 1985 has only just begun.

Why, then, do things seem worse than they are? America's expectations about rising prosperity were formed during the exhilarating postwar era of unchallenged U.S. economic dominance. For an entire, unrepeatable generation after World War II, U.S. corporations lacked foreign competitors at home and dominated markets abroad. They could sell products as fast as they could make them. To prevent well-organized union workers from shutting down such profitable high-volume production, they kept wages rising, passing along higher costs to seemingly insatiable customers. But when foreign competitors took to the field in strength and made cost a key issue—especially the cost of labor, four times higher for manufacturing in the U.S. than in Japan in 1970 and 17% higher in 1990—American workers' wages slowed and then stopped rising.

The shock waves in manufacturing—the givebacks and two-tier wage scales of the past decade, the decline of union strength, the drop in manufacturing from a quarter to around 16% of total U.S. employment—spread into the service sector too. Other domestic employers of relatively low-skilled labor no longer had to compete with high-paying factories to attract workers.

THE RESULT was that the real wage of the median 25- to 34-year-old male worker, which had surged around 30% in the Fifties and again in the Sixties, grew a mere 1.5% in the Seventies and *fell* 11% in the Eighties. The drop was confined to the less educated: High school graduates' earnings fell almost 15%, while workers with college degrees pocketed increases of more than 7%. For women in that age group, lower skills also meant low pay. Their median wage rose 6.4% in the Eighties, increasing from a mere two-thirds of the median for 25- to 34-year-old men in 1979 to four-fifths in 1989. But almost all the increase went to college grads, whose wages grew 12.3%. Their high school sisters got only a 1.6% gain.

By contrast to the shrinking pay envelopes of young male workers, the median wage of 45- to 54-year-old working men rose 4% in the Eighties—a meager gain, but still a gain. They were old enough to have found unionized manufacturing jobs when they were still available and to keep them because of seniority.

The opposite of lazy, Americans responded to this wage slowdown by working more. They flooded into the labor force, so that today more Americans work for pay than ever—66.3% of the population in 1991, as opposed to not quite 60% in 1950, including resident military forces. Women account for much of the surge: Some 57% worked in 1991, compared with around a third in 1950. By contrast, almost 63% of all Japanese work, and 49% of Japanese women. For Germany the percentage of workers is lower still: 55% of the total population, and only 43% of women.

Not only do more Americans work, they also toil longer hours. Today's 1,890-hour average U.S. work year for all people who hold jobs, though perhaps skewed slightly by the small percentage of yuppies and entrepreneurs who work 100-hour weeks, is 15% higher than 1950's, according to the authors of *Where We Stand*, a soon-to-be-released study of global wealth. Instead of being the shortest among the industrial nations, as in 1950, it is second only to Japan's 2,173 hours and way ahead of last-ranked western Germany's 1,668-hour working year. Those unruffled Germans luxuriate in an average 30 paid vacation days a year; the American worker makes do with a frugal dozen. Here again the Japanese top the scale in industriousness: They get 15.5 vacation days, on average, but they *take* only 8.2.

By toiling more, American workers kept their standard of living the world's highest, and not only by the usual measure of real GDP per person. Americans own one car

CALVIN THOMAS, 35
Assembler, Honda of America
East Liberty, Ohio

"You give us an opportunity to have a say-so, and we can do a good job."

for every 1.73 people, for example, compared with one for every two people in Germany and every 3.5 in car-exporting Japan. True, 60% of Japanese households own their own home, topping the 59% of U.S. households who do. But the average Japanese home costs 8.6 times an average annual income, compared with three times in America, and whether owned or rented the U.S. house averages 1,773 square feet, more than twice the proverbially cramped Japanese home. Perhaps most remarkable, only three out of five of those costly Japanese homes boast a flush toilet (most others use simple commodes with holding tanks), while but one in five comes with central heating.

Besides laboring more, American workers have spent more years in school than ever before. More than half the 1952 work force never made it through high school; last year only 13% hadn't graduated. Over a quarter of today's American work force has a college degree, up from 7.9% in 1952, and an additional 21.3% of American workers today have one to three years of college. Comparable figures for the Japanese work force aren't available, but only 10.7% of all Japanese adults (nonworkers as well as workers) are college grads, half the proportion of American adults. In both countries around two adults in five have only a high school diploma.

Trouble is, all this progress isn't enough in the new economic order. A high school education usually won't get a young American one of the relatively high-paying technician or information-worker jobs that the service sector has been creating at a high rate for the last decade and will go on creating into the new century. And though statistics suggest that today's high school student who doesn't go on to college is as literate and numerate as a similar 1950s student, Fifties skills are inadequate to Nineties needs and uncompetitive with the products of foreign school systems.

The character of what workers need to know has changed too. Says Kiichi Mochizuki, a former Japanese steel executive who heads the Pacific Institute, a New York City research group: "These days, with computerized factories and digitally controlled machines, mathematics are very important for factory operations. When you talk about skill—the word 'skill' is wrong: It implies manual dexterity to carve the wood or hit something with a hammer. Now skill is mental rather than manual."

LARRY KERRIGAN, 31
Pipefitter, Phelps Dodge
Morenci, Arizona

"My wages aren't really keeping pace. I don't feel like I'm getting ahead."

How will today's workers master statistical process control, or the careful measurement and self-inspection needed for flexible manufacturing's frequent tool changes, if they don't have basic math and reading skills? Corporate executives increasingly are pressuring educators to ensure this basic competence. But they need to take the next step and ask for high school transcripts when hiring, to pressure students to cooperate with teachers and take these matters seriously.

What are managers to do in the meantime with the more than 80% of the work force of the year 2000 already out of school and on the job? It turns out that the requisite skills are neither hard for workers to learn nor prohibitively expensive for companies to teach. Akron-based private investor David Brennan has discovered this in four of the 17 manufacturing companies he owns with two partners. He found that 30% of his workers read below the fifth-grade level, and two-thirds were below that level in math. So Brennan installed computer teaching systems in factories making such things as brakes and stampings. These personal computers use Wicat Systems educational software to teach vocabulary, reading, and math in a jazzy, colorful, animated-cartoon format at the learner's own pace. Brennan invited his employees—and required deficient ones—to use them. He calculates it will take three years, at two hours a week of company time, to get workers up to the eighth-grade competency he thinks necessary to boost efficiency.

Since the machines arrived, he says, workers are filled with newfound confidence, and employee turnover has fallen sharply. Brennan predicts that in three years the program will raise productivity at the four plants 50%. The cost? Says Brennan: "In a 500-person plant, in five years I will invest $3 million for the equipment, the facilitators, and the company time the workers spend learning. I wouldn't hesitate to spend the same amount on a machine that five years from now is going to be increasing my productivity by $1 million a year."

CRUCIAL as higher skills are, management is the decisive variable in determining how good a given set of workers will be. As the world economy's tectonic plates shift, ways of organizing and managing work no longer differ from one another by nuances but by light years. Traveling from company to company today, it's easy to feel like Gulliver going from the academy of zany scientists at Lagado to the rational land of the Houyhnhnms, so much does each company feel like a world in itself, structured by distinct principles that determine the character and quality of life and work there. Alter that structure and, presto, the form of life changes too.

Today hierarchical systems designed to

continued

control workers and break down production into its smallest component tasks are obsolete. They are steadily giving way to looser, more decentralized arrangements that give workers more autonomy and responsibility in the hope of enlisting their pride, judgment, and creativity. The aim: to get them to think constantly about how the job they know best could be done better; to have them be flexible, so they can do more than one part of the process, when needed; and to care about the quality of the job they do. For unlike efficiency, which can be quantified by productivity, quality is hard to measure. And since quality is both crucial to competitiveness and an attribute that resides in every part of the process, it must be put in by every producer, not sprinkled on later.

Look through workers' eyes and see how deeply the way they are managed affects their sense of whether they can do their best. Take the miners at Phelps Dodge's Morenci copper mine, a Brobdingnagian open pit punctuating an arid Arizona moonscape. In 1983 the mine was convulsed by a bitter strike. It ended by management's breaking the unions, part of the pushing back of unionism that is a key trend in current labor relations. That was truly a watershed. In the past decade Morenci's annual productivity has ballooned from 100,000 pounds of copper per employee to more than 300,000. In the same period, accidents declined from 14 per million employee hours to fewer than two, evidence not of more pressured but of smarter work.

THAT'S HOW the workers see it. Under the old union dispensation—typical of its sort—workers were isolated units, cut off from one another, and as cut off from their supervisors as if they were in solitary confinement. All that has changed. Says mechanic Frank Reyes, 48: "It's a lot better now. We're allowed to speak our own opinion more liberal. We used to have to go through the union. We were told whether to, or not to, speak. It wasn't based on its being the right thing." Adds pipefitter Larry Kerrigan: "I can go up to my general foreman and talk to him. I can get more across that way than going through, like, an interpreter." Kerrigan has suggested changes in work and safety conditions that ultimately were adopted.

Now too, Kerrigan is part of a flexible team rather than a cog in an ironbound machine. Says he: "It's more like 'workers together' instead of 'the union says this is my job, and I can't do nothing else.' You can kind of cross-train in different areas. I've worked with pump repair when I was needed and there really wasn't all that much work in the pipe shop that day. It's interesting." And efficient.

"It's more 'workers together,' instead of 'this is my job and I can't do nothing else.' "

Service companies as well are embracing what might be called management by empowerment. In a job as routine as manning the "help line" at IDS Financial Services in Minneapolis, Stephen Magistad (the man on FORTUNE's cover) feels he's going somewhere as he fields calls from salesmen about forms and procedures for selling mutual funds or from clients calling about such things as getting their fund earnings paid out monthly. Says college grad Magistad: "In another company this would be a dead-end job. But it got me into a good company with a history of being very creative in how it uses the human resource."

His managers, he says, continually ask how they can help, how his working conditions can be made better: "You feel like you're empowered, that what you say has merit for those who manage you." More important is the training the company offers. "They really try to develop you," says Magistad. As a result, opportunity abounds: "It's almost a matter of how high I want to go." His goal is to be a manager in IDS's communications department, and many of his highly motivated help-line colleagues also believe they can climb high into the managerial ranks.

Conversations with two groups of auto workers, earnest and articulate but otherwise as opposite as the masks of comedy and tragedy, dramatize how radically the old organization of work and the new differ in giving people the power to do their best. Mutinously angry, seven General Motors assemblers at the Local 594 union hall in Pontiac, Michigan, explained why they thought the whole system at the three plants where they worked hindered them from making the best trucks and four-wheel-drive vehicles they could. The organization they describe, like a relic of a bygone age, sounds like the kind that called unions into being in the first place, matching rigidity and confrontation with rigidity and confrontation. (For the latest developments at GM, see Managing.)

THESE WORKERS—in their 30s, with 15 or so years' seniority—feel that in the eyes of management they don't even have identities. Says Mark McKinney, 32: "To General Motors you're a number. You're number 7795. This department needs a body, that department needs a body; they send the short person up to the horse-collar line where everything is way up here, and they'll take some long tall person and stick him down on the frame line or in the pit. And then they get hurt."

Is management interested in hearing their views on how to do the job? Says Darlene Fiorillo (the woman on FORTUNE's cover): "Down on the floor, you can see the operation, and you know how it's supposed to be done. Up there, upper management's saying, 'Nah, nah, we can do it cheaper and more efficient if we do it our way.' So these people up there that are calling all the shots are not experiencing what really needs to take place on the floor. And they don't really care, because they're thinking, 'Short-term dollars and cents, it looks real good,' and we're here down on the floor thinking, 'Long term, it's our job.' Plus we want to give a person exactly what they bought: a perfect vehicle for the price. Any auto worker would tell you that."

"These people calling the shots are not experiencing what needs to take place on the floor."

What would these workers tell management, if asked? Says McKinney: "I'll tell you what they should do. They should not concentrate so much on the quantity—and let us work on the quality. They're so concerned with trying to squeeze another four or five seconds of work out of us that they have forgotten to fill in the little holes on the quality." Not, all hasten to add, that the quality is bad. But it could be better. Says Jim Hall: "If you notice something wrong with the job, you say, 'Hey man, check this out.' A supervisor looks at it, calls the superintendent, and

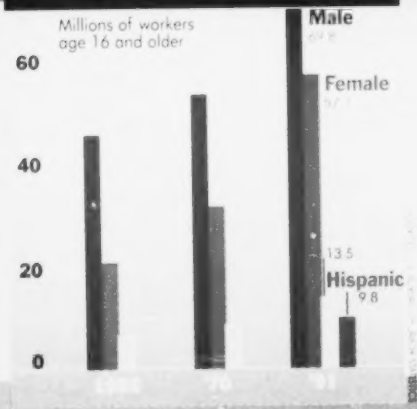
continued

THE ECONOMY

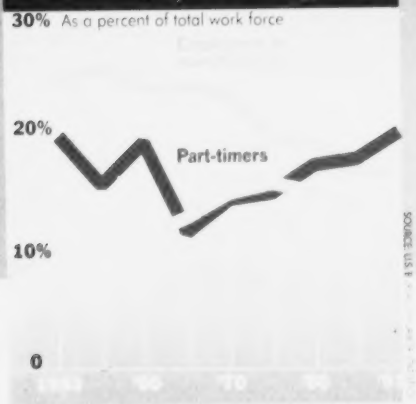
TODAY'S U.S. WORKER

Stacked up against their parents and their foreign counterparts, American workers—more schooled and putting in longer hours than ever—perform impressively. Their productivity, the industrial world's highest, is growing faster than Germany's and as fast as Japan's.

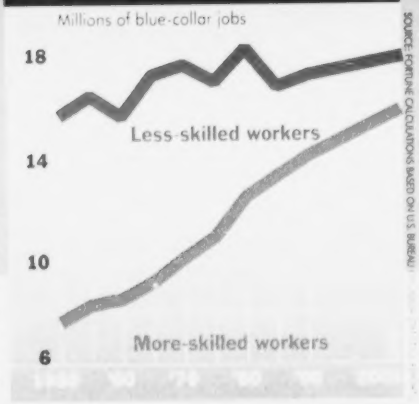
MORE FEMALE & MINORITY ...



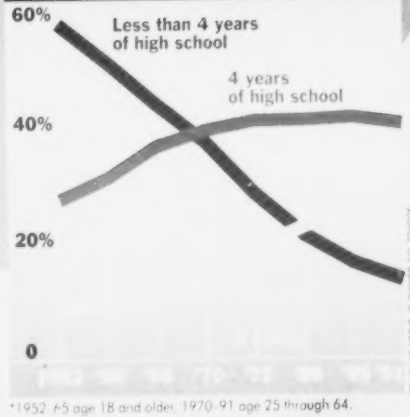
MORE SERVICE & PART TIME ...



MORE SKILLED ...

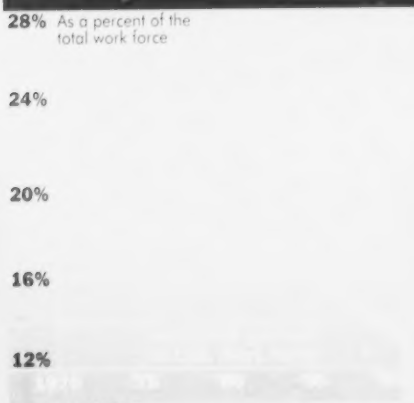


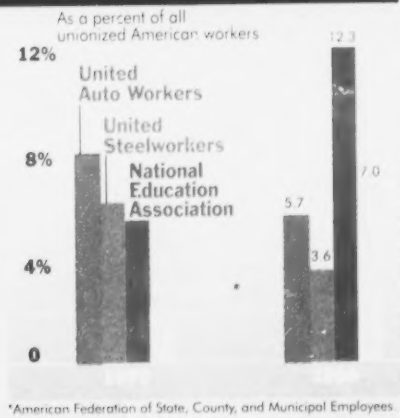
BETTER EDUCATED*...



*1952: 65 age 18 and older. 1970-91 age 25 through 64.

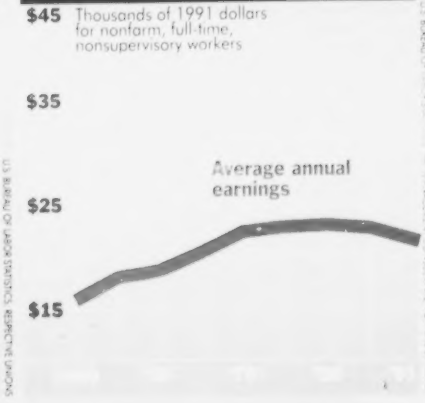
LESS UNIONIZED (ESPECIALLY IN FACTORIES) ...





*American Federation of State, County, and Municipal Employees

... AND LESS REWARDED



RENEE KLEIN FOR FORTUNE

How They Compare

Pay
Hourly compensation costs for production workers in manufacturing; in 1990 dollars, using purchasing power parity exchange rates

U.S.: $14.77 **Western Germany: $14.67**
U.K.: $10.60 **Japan: $9.22**

Loyalty to the company
Strongest employee identification with company values = 100

U.S.: 56 **Japan: 85**
Western Germany: 64 **U.K.: 48**

Service employment
Including managers, administrators, and technical personnel

U.S.: 70.7% **U.K.: 68.7%**
Japan: 58.2% **Western Germany: 56.1%**

Home ownership rates
Percent of all households

U.S.: 59% **U.K.: 67%**
Japan: 60% **Western Germany: 40%**

Sizes of homes
Average, in square feet

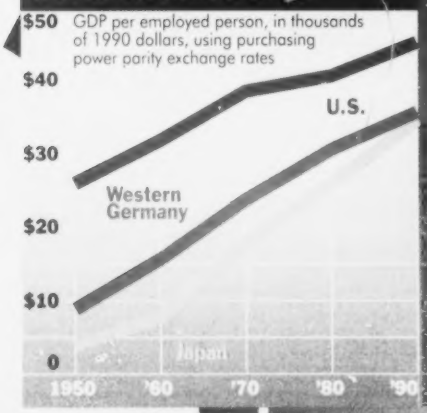
U.S.: 1,773 sq. ft. **Sweden: 1,250 sq. ft.**
U.K.: 1,050 sq. ft. **Japan: 800 sq. ft.**

Car ownership
For 1990, passenger car registrations per capita; does not include light trucks

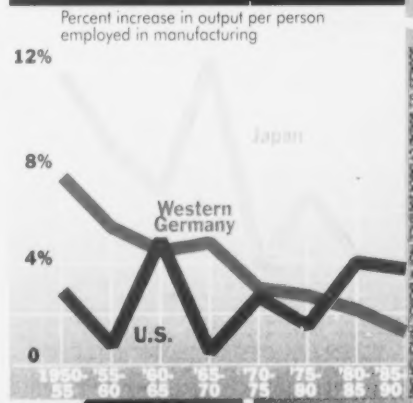
U.S.: 0.58 **Western Germany: 0.48**
U.K.: 0.41 **Japan: 0.28**

SOURCES: U.S. BUREAU OF LABOR STATISTICS; "FROM RESEARCH IN WHERE WE STAND: 1992, BY MICHAEL WOLFF AND CO.; FORTUNE CALCULATIONS BASED ON DATA FROM MOTOR VEHICLE MANUFACTURERS ASSOCIATION OF THE U.S.

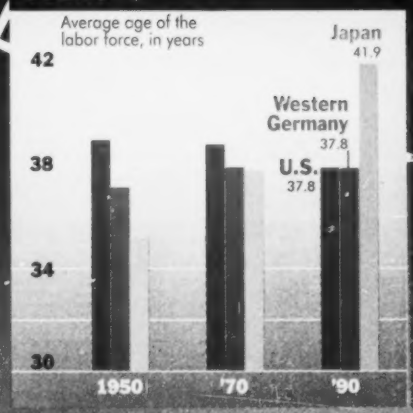
More Productive



And Staying Ahead ...

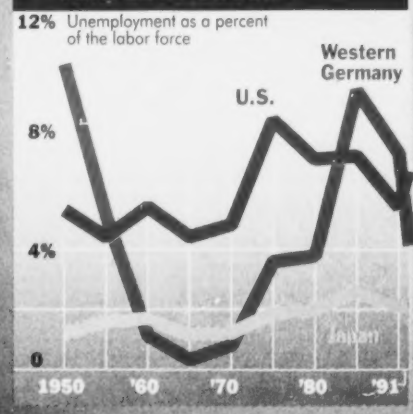


Young ...



Hardworking ...

... And Less Secure



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the superintendent says, 'Hey, we ain't got no time. Run 'em. We'll just try to do the best we can in repair.' Now how much [defective] stuff is getting out the door? And you know who gets blamed for it. We do. It makes me mad."

Fiorillo and McKinney are enrolled in a company-funded program to get their high school diplomas to be ready to face a non-GM future, if necessary. Says Fiorillo: "I'm the fourth—and last—generation of my family to work here." Adds Gene Caverly, 38: "There's no way your children can even dream of getting a job with General Motors. It'll just get smaller and smaller and smaller."

Sit down with a comparable group of American assembly-line workers at Honda's gleaming, 21st-century plant in East Liberty, Ohio, where automated buggies beeping like R2D2 bustle parts to the line, and you feel as if you're talking to workers who've truly lost their chains, as content and optimistic as their GM counterparts are resentful and demoralized. Even though they are all dressed in identical ice-cream-man company uniforms, these "production associates," as Honda calls its workers, feel anything but pawns of remote managers. Says Soni Tron: "There's not any idea you can have that people are not willing to listen to at any level. They want to help you develop it, and they'll go to any length to help you in any way they can."

NOR IS IT HARD to convey those ideas upward. Workers and management eat in the same cafeteria at the same long tables, in contrast to typical Detroit practice where management mainly dines with itself. Tron once plopped down in the seat next to the head of Honda's American manufacturing operation to give him a piece of her mind: She'd been working on trying to get an employee assistance plan started for two years and felt that no one had considered it seriously. The president listened; the plan was established. As for the only slightly less august plant manager, Ed Buker, says Sandy Johnson, workers don't hesitate to pick up the phone and call him. "If you've got trouble," she says, "all you have to do is say, 'Hey Ed, we've gotta meet with you.' He'll say, 'No problem.' "

Why is Honda management so quick to listen? Mark Russell, 31, a paint shop worker, explains: "Honda's thing is, the guy on the line is the gut professional on his job, and he knows what is best for that process at that time. He knows best how to make it better." Adds assembler Calvin Thomas: "You give us an opportunity to have a say-so, and we can do a good job."

"Depending on how a person's treated and how he's trained, anybody can achieve."

Beyond mere listening, Honda management often turns significant decisions over to workers. Says Tom Spangler, 32, from bumper painting: "When we make a production change, we redesign the way our department is laid out ourselves. We don't have a separate company come in and say, 'We're going to be doing a new style of bumper; we've got to modify the equipment.' We work some overtime, and we do it. This way we know how everything's put together and works in our department. You're not just another machine doing your job."

All this makes workers more than workers. Says Soni Tron: "We may not be classified as management, but many of us are doing management-type jobs. They're letting us see what we can do with our abilities, and helping us, and then promoting us accordingly." The help is a vast array of free classes, some of them required, in everything from problem solving to the corporate culture to the technical details needed for most jobs in the plant. Says Sandy Johnson: "All you have to do is go over and say, 'I'm interested.' They'll let you do anything. You can just go as far as you want." Almost all of the eight workers sitting around the table with FORTUNE had taken some of the voluntary classes.

How far can they go? "That'll be my choice," says Sherri Miller, from Vehicle Quality. "It depends on which department I want to work for, and what motivates me." All at the table nodded in vigorous assent, mentioning co-workers who'd become supervisors and sometimes senior managers. Even seemingly unpromising co-workers have shaped up and moved up at Honda, says Mark Russell: "Depending on how that person's treated and how he's trained, anybody can achieve."

At Nucor you can see a new labor elite in action—an elite that is a pure meritocracy, not the old privileged class based on union power in oligopolistic industries. Nucor goes about as far as you can go in letting workers manage themselves, and with its self-managed teams it has achieved steelmaking breakthroughs competitors believed impossible. Its organizational principle most resembles one of those commando caper movies, where handpicked, spunky men, forged by grueling training into a confraternity, venture out to do a daring undertaking under a leader who is more quarterback than boss.

SUCH ANYWAY is the fanciful image that comes to mind when you listen to Nucor's workers tell about their corporate history and culture. Some 3,000 people turned up in 1988 to apply for jobs at Nucor's planned mill in Crawfordsville, Indiana. They were winnowed to 400 in several hiring stages by an arduous battery of interviews and tests that left the chosen feeling chosen indeed (though mill manager Keith Busse says a third to a half of the applicants could have done the job). Says arc furnace operator Michael Grundy, 35: "We're one notch above everybody else who works around here, in common sense and in thinking on our feet." The first hundred hired built the mill with their own hands, alongside the contractors, giving them a feeling of proprietorship and mastery. Says lead mill adjuster Gary Hardwick, 37, gesturing at the complex machinery through which a glowing red ribbon of semisolid steel glides: "I helped unload all this stuff. I remember what it all looked like when it was still sitting in the crate."

"We weren't familiar with the steel industry, so we didn't know what couldn't be done."

After some 150 key workers returned to Crawfordsville from specialized training in Germany, California, and Utah, the 400 started up the first mini-mill to try to cast sheet steel, supposedly impossible. Says Hardwick: "We weren't familiar with the steel industry, so we didn't know what couldn't be done." It took ingenuity to iron out the glitches in the first few months; when the mill finally did run smoothly, Nucor's people acquired an extra dollop of the macho swagger that

hot-metal men have. "I was here when we ran the first bar through," says Hardwick. "That's kind of exciting, knowing you're the first guy in the world to run a thin slab through a four-mill rolling stand."

Everyone on each of the mill's five- to ten-man teams knows most jobs the team handles. Says Hardwick: "When the next guy has problems, you understand what he's going through. With such small teams, it's more like a brother. Everybody's looking at his fellow teammate to make sure he's safe." As for the team supervisor, says Hardwick, "he's more like a co-worker than a boss. We look to him for the big decisions, like downtime to correct a quality problem. That's why he gets paid more. But otherwise he's a member of the team."

Each worker is also looking at his teammates to make sure they're performing, since all get identical bonuses—which can amount to 150% of base pay—determined by the group's performance. Mike Grundy's group earned $50,000 to $59,000 each last year, working four days of 12-hour shifts, alternating with four days off, the equivalent of a 42-hour week. Says Grundy: "When I get paid, I get paid damn well."

DURING the industrial revolution, one of the gravest objections to industrial capitalism was that the division of labor, its key principle, also divided men and turned people into nothing but their hands. It stunted individuals, stifling their most human faculties of heart and brain and making them animated machines, shaking with the same repetitive movement for ten or 12 hours a day as if from palsy.

The economic transformation now under way in the United States undeniably imposes disappointment and often hardship on many for whom high-paying, low-skill jobs will not be found. But it it has a larger, deeply moving consequence for the American worker. Says Garry Berryman, who runs Honda's training center in Ohio: "An organization, with all its greatest muscle—machinery, equipment, money, facilities—can't do anything unless it's got a brain. The brain is the people." No Gilded Age mill owner, and scarcely any 1950s corporate chieftain, would have understood that statement. That so many companies today have taken that principle to heart, calling upon all the workers' abilities and genuinely democratizing organizations to do so—surely that, in the profoundest sense, is progress. F

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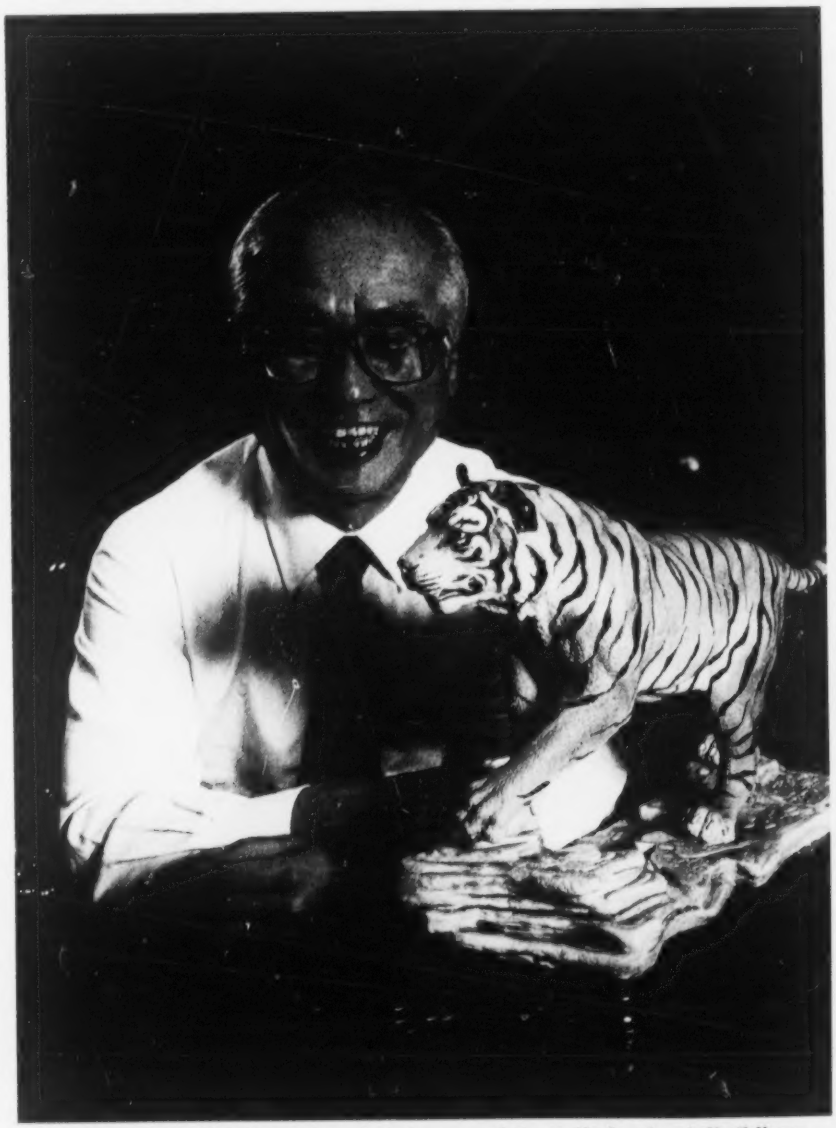
KOREA'S TIGERS KEEP ROARING

The government doesn't love them anymore, and wages have exploded. But Korean conglomerates are fighting back with aggressive new global strategies. ■ *by Louis Kraar*

SOUTH KOREA'S long quest to be the next Japan seems right on schedule. The country's giant conglomerates are moving into every market on earth. Goldstar has bought a 5% stake in Zenith Electronics in the U.S. Hyundai cars are rolling into Europe. Samsung is pumping oil in Western Siberia and setting up television plants in Eastern Europe. Most dramatically, Daewoo Chairman Kim Woo-Choong has made deals to build factories in North Korea, finally bridging the heavily armed border of the Cold War's last divided nation.

But look more closely. Much of that frenetic activity is aimed at countering South Korea's eroding competitiveness. It's not that the economy is in trouble; gross national product has grown an average 9% annually for the past four years and should rise nearly as much this year. Even so, the faltering of what has been a fabulous export machine has created a crisis atmosphere in Seoul. Says Park Seong-Yawng, chairman of the Kumho Group, a transportation conglomerate, in typical overstatement: "The nation is inching toward an economic bust." The Korean share of American imports peaked in 1988 at 4.6% and last year fell to 3.5%. The trade deficit, mostly with Japan, was nearly $10 billion last year, more than double that of 1990.

Part of the problem is that South Korea's role as a mass producer of low-priced consumer goods is being taken over by Southeast Asia, China, and Mexico. After military rule ended in 1987, an explosion of strikes led to the highest wages in Asia outside Japan. The Korean economy is now undergoing what President Roh Teh-Woo terms "a grave transition." Says Kenneth Park, a thoughtful, American-educated economist and president of Samsung Petrochemicals: "We had this fixation on becoming a second-rate Japan, but now we've got to stress originality."



Daewoo Chairman Kim Woo-Choong always looks for new markets—and he found one in North Korea.

PHOTOGRAPHS BY H. EDWARD KIM

When wages were low, rows of women wired VCRs. Now just one handles the job in this Samsung plant.

On top of that, the longstanding partnership between government and industry—which sometimes made the industrial policies of Japan Inc. look laissez-faire—is breaking down. Korea's big conglomerates, known as *chaebol,* grew rapidly after the Korean war on low-cost loans and other government incentives because political leaders wanted to build potent international competitors. In the new political climate, though, ordinary Koreans have come to see these companies, still largely run by founding families, as too powerful. The top five groups (see table) account for nearly 62% of GNP. Politicians, who have to face voters now, have responded with unprecedented *chaebol* bashing.

As the big conglomerates fight back, new openings will develop for the West. The Koreans are looking for business allies, especially American companies willing to share technology. At the same time, South Korea is opening its domestic market and stock exchange wider and faster than Japan did.

More good news for world business is that Korea, with a population of 43.2 million, has become a consumer society. Its roads are crammed with 2.26 million cars, nearly triple the number just four years ago. South Koreans, whose incomes average $6,590 a year, are hungry for U.S. products, including a few Cadillacs as well as a lot of sporting goods, cosmetics, and capital equipment for automating factories. And this is one growth market where Japan is handicapped: Koreans still resent Japanese colonial rule from 1910 to the end of World War II.

There are also lessons for managers everywhere in the ways the *chaebol,* which rank among the world's biggest enterprises, are adapting to change. The Koreans are learning to operate amid conflicting demands—boosting exports without going broke through deep price cutting, and motivating employees and raising efficiency without being authoritarian. Says Yoon Young-Suk, president of Daewoo's trading arm: "Big business groups are the brains of our economy."

STILL, the adjustments are wrenching. Hyundai, the largest automaker, is feeling the most pain from the breakdown of cozy government-business relations. Chung Ju-Yung, 76, Hyundai's irascible founder, a rice farmer's son who became a billionaire, has attacked President Roh for making the *chaebol* the whipping boys of his economic policies. Chung got slapped, he says unfairly, with a record $180 million bill for personal income taxes late last year. And Hyundai claims to be the target of a continuing barrage of official actions—including intense tax audits and pressures on banks not to lend.

Fighting back, Chung formed his own political party and quickly became an influential political figure. His party won 10% of the seats in recent parliamentary elections, part of a larger rejection of the government at the polls. Chung, who accused the Roh regime of collecting questionable political donations from corporations, may even run in the presidential election later this year. Evidently preparing the way, he has vowed to give up his shares in Hyundai's 14 public companies, a portfolio with an estimated value of $2.6 billion. His political triumph should ease government pressures on his conglomerate, which has complained in a petition: "Normal management in Hyundai has become impossible."

It may not be normal, but Hyundai and other *chaebol* are adapting well to new challenges. To hone their competitiveness, they are downsizing, decentralizing decisions, and even spinning off companies. Says Sean Goldrick, chief of research in Seoul for stockbroker James Capel: "The *chaebol* are beginning to break themselves up for their own reasons."

Samsung wants to concentrate on electronics and chemicals, so it has spun off its department store chain and paper manufacturing business. Lucky-Goldstar Chairman Koo Cha-Kyung has told key executives to run their own shows without bothering him. Hyundai Chairman Chung Se-Yung, 63, the founder's brother, describes himself as last man to boss the entire group. Says he: "Hyundai no longer wants to have the bad image of a *chaebol*. It will change to an assembly of totally independent companies."

Ultimately the need for new capital will convert family fiefdoms into public corporations. Traditionally, the *chaebol* have relied on bank loans rather than the sale of stock to raise cash. In an effort to curb what it sees as too much diversification, however, the government has pushed interest rates up as high as 20%. A shift to equity will create lots of blue-chip Korean stocks in a market finally opening for foreign investors. *continued*

REPORTER ASSOCIATE *Thomas J. Martin*

TOP FIVE KOREAN CONGLOMERATES

Company CEO	1991 Sales in billions	Main Business
Hyundai Chung Se-Yung	$51	Construction, autos, heavy machinery, petrochemicals
Samsung Lee Kun-Hee	$49	Electronics, heavy industry, petrochemicals
Lucky-Goldstar Koo Cha-Kyung	$26	Electronics, chemicals, machinery, metals
Daewoo Kim Woo-Choong	$25	Heavy machinery, autos, electronics, shipbuilding, construction
Sunkyong Chey Jong-Hyon	$13	Petroleum products, textiles, polyester film, magnetic tapes and disks, shipping

FORTUNE TABLE

IBM veteran Ronald Olsen (second from left) heads Sunkyong's New York City strategy team.

One important strategy for the *chaebol* has been formation of international alliances to acquire expertise and new technology. Lucky-Goldstar Group is a prime example. It was getting nowhere trailing the Japanese by a few years with me-too consumer products. Goldstar, its electronics company, lacked the technology for innovative new products, and no Japanese company was willing to help. So who might? How about the last American TV maker? Emboldened by advice from McKinsey & Co., Goldstar bought a share in Zenith last year.

One result: Goldstar soon will make slim TV sets with large screens by using Zenith's patented "flat tension mask" color picture tube. The alliance also strengthens Zenith. It gets an infusion of cash for both equity and licensing, plus a Korean ally with plants in Europe, the Middle East, and Asia.

EVEN ALLIANCES that turn sour can help a Korean company. Daewoo and General Motors are breaking up a $200 million joint venture in autos, but they still plan to work together. Daewoo Chairman Kim insists, "This is a friendly divorce." After 14 years the partners have decided that their goals are too different. GM wanted to participate in the growing Korean domestic market and fill a niche in its U.S. product line with a Korean-built subcompact called Pontiac LeMans. But Kim had global ambitions. Ultimately his zeal for exports clashed with American concern for profits, a classic East-West business conflict.

Kim is resolving the conflict by buying GM's half of Daewoo Motor while maintaining an alliance. The Korean automaker will continue supplying the LeMans to the U.S. market, at least for a few more years. GM is sticking with three other Daewoo joint ventures that profitably export auto components. Meanwhile Kim has made some headway in his home market with a minicar produced by another Daewoo company under license from Suzuki, a GM affiliate in Japan.

The Cold War was particularly tough on South Korea, not only because it has had to spend up to 6% of GNP on defense but also because most of the old communist bloc countries rebuffed its companies out of solidarity with North Korea. Now South Korean manufacturers are finally able to reach eager customers in Eastern Europe, the former Soviet Union, and, increasingly, China. Samsung expects to boost trade with China and Russia, including sales of capital goods, by 50% this year, to $1.2 billion. The South Korean government, despite its tensions with the big companies, is promoting exports by making loans to Russia and Eastern Europe.

Daewoo has signed up to build a large plant for making 1.6 million TV picture tubes annually in Hanoi, where workers cost $30 to $50 a month, vs. $1,500 monthly in South Korea. A nonaggression pact between North and South Korea opened the way early this year for Daewoo's Kim to negotiate nine joint venture export factories in North Korea to turn out garments, shoes, luggage, and kitchen utensils. Without fanfare, Samsung is also setting up an apparel plant in a suburb of Pyongyang, the North Korean capital. Its products will bear a Samsung label saying simply: "Made in Korea."

Many Korean executives have degrees from U.S. universities, but Chey Jong-Hyon, 62, chairman of Sunkyong, has found another way to tap into American management methods. Chey, who earned a master's degree in economics at the University of Chicago in 1961, set up what he calls the Office of the Chairman for Management and Planning (OCMP) in New York and hired 15 Americans headed by IBM veteran Ronald D. Olsen to staff it. Says Chey: "Koreans think they understand America, but they don't know what they don't know." His Americans not only teach Korean managers to operate better in the U.S. but help Sunkyong get into new businesses in Korea.

Steadily upgrading production machinery and the people who run it is an old Japanese strategy, but the Koreans are doing it with new vigor. Samsung, the *chaebol* with the most professional management, last year invested $1.2 billion—42% of its capital budget—on equipment to raise efficiency. As a result, Samsung expects to raise productivity of both electronics factories and its shipyard an average 27% this year. On color TV assembly lines, each employee will turn out 21.8 sets this year, up from 16.7 last year. Samsung avoids layoffs by retraining workers for other jobs, a program that greatly enhances morale. In offices, Samsung is trying to increase efficiency by cutting out meetings and written reports.

Though criticizing big business has populist appeal in Korea, it makes little economic sense. Bureaucrats claim that the constantly diversifying *chaebol* leave little opportunity for small and medium-size enterprises. In fact, these kinds of companies are often *chaebol* suppliers. Officials also argue that if conglomerates focused on no more than three core businesses, they would become more competitive globally. The answer to that is, diversity enables the corporate giants to use the cash flow from mature businesses for new industries, such as semiconductors. In any case, market forces are a more efficient regulator.

FINALLY, many Koreans maintain that family control of ownership and management of the *chaebol* represents excessive concentration of power. Already, that supposed power is being diluted as companies go public and increasingly rely on professional managers—just as America's pioneering capitalists did. Clearly, South Korea cannot afford to restrict its most successful corporations and exporters. F

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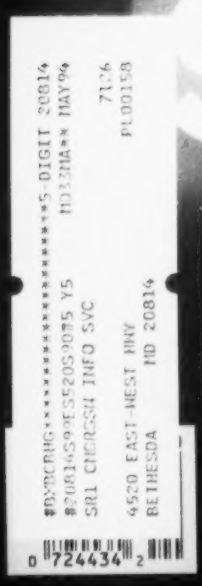

MAY 18, 1992

VOL. 125, NO. 10

FORTUNE

"The trump card Japan will play in the second half of the 1990s will be its strategic control of the fastest-growing consumer market in the world." 60

COMPETITION/COVER STORIES

ABOVE: A company song and creed recitation in Japan. Photo by Eiji Miyazawa (Black Star).

COVER: Despite the current economic slowdown, Japan's star is on the rise. Photo by Ron Watts (Westlight).

WHY JAPAN WILL EMERGE STRONGER 46

You may think it is down for the count, but the blows to the Japanese economy are purging dangerous excesses: When the country comes out of recession, it will have vanquished an inflation threat, undercut speculation in the financial markets, and improved workers' lives. *by John J. Curran*

WHAT IF JAPAN TRIUMPHS? 60

It sure won't mean apocalypse now. But a world in which the U.S. economy is no longer No. 1 would pose new challenges and risks. *by Richard I. Kirkland Jr.*

MONEY & MARKETS

VICTIMS OF THE REAL ESTATE CRASH 70

Few people have grasped just how stunningly big the commercial real estate debacle is. But before this mess is over, the glut in offices, stores, hotels, apartments, industrial facilities, and similar properties will pile big-dollar pain on financial institutions, taxpayers, savers—virtually the whole world. *by Carol J. Loomis*

NEVER BORROW ANYTHING SMALL 82

Needing to restructure about $9.4 billion in bank debt, the Reichmann brothers put a gun to lenders' heads by preparing to take Olympia & York into bankruptcy. *by Adam Corelli*

CORPORATE PERFORMANCE

GETTING HOT IDEAS FROM CUSTOMERS 86

Its work in hospitals coaching doctors on how to use its instruments gave United States Surgical an edge in spotting and developing the hottest trend in surgery. That sharpened profits and gave the boss a $118 million paycheck. *by Jennifer Reese*

HOW TO SHOULDER ASIDE THE TITANS 87

By filling a niche—where the big guys goofed—with ingenious technology, Octel has leaped to No. 1 in a hot new area of telecommunications that electronically links voice, data, and image processing over telephone networks. *by Gene Bylinsky*

UNLEASH WORKERS AND CUT COSTS 88

Chaparral Steel's mild-mannered CEO has focused on a "classless" organization and employee autonomy to become the world's low-cost producer—and profit in tough times. *by Brian Dumaine*

"Once I knew I could make a living cooking, that decided it." 12

"I've never been in a restructuring as big as this." 82

"Real motivation comes from within. People have to be given the freedom to succeed or fail." 88

"The people who do the work should have in their hands the means to change to suit the customer." 92

"J. D. Power has changed the auto business forever." 103

"Should handedness be weighed in determining whether a candidate is fit for office?" 119

CORPORATE PERFORMANCE

COMPANIES TO WATCH 89

Catalina Marketing lets food companies home in on a customer's shopping habits *before* they issue coupons. *by Richard S. Teitelbaum*

Also: Dahlberg and Nature's Bounty.

LOOKING AHEAD

THE SEARCH FOR THE ORGANIZATION OF TOMORROW 92

Are you flat, lean, and ready for a bold new look? Try high-performance teams, redesigned work processes, and unbridled information, which are already proving their value in delivering big gains in productivity and job satisfaction as hierarchical setups become outmoded. *by Thomas A. Stewart*

INNOVATION

PRODUCTS TO WATCH 101

A desktop color copier, Braun's pivoting shaver, a square ball (it can bounce but won't roll away), and more. *by Alison Sprout*

AUTOS

MORE POWER TO J.D. POWER 103

Meet the man behind the auto industry's most important customer surveys. He made carmakers focus on quality, and now he is turning to airlines and office equipment. *by Alex Taylor III*

EXECUTIVE LIFE

HOW TO TAKE CARE OF AGING PARENTS 108

Elder care is a lot easier if you plan way ahead, and get help from a big and growing network of resources. *by Brian O'Reilly*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12

Why air fares are sure to go up, making quality more than a fad, BMW's plurality over Mercedes, why some are out to gut GATT, and more.

FORTUNE FORECAST 21

Business regains its courage. *by Vivian Brownstein*

Economic Intelligence: C. Fred Bergsten finds a powerful new consensus for a shift from consumption to investment.

PERSONAL INVESTING 25

Where to look for value as the market flashes danger signals: FORTUNE scrutinizes stocks, bonds, real estate, and commodities.

Also: Portfolio Talk with Richard Cheswick of Cheswick Investment in Greenwich, Connecticut.

LETTERS TO FORTUNE 37

FORTUNE PEOPLE 113

How golf's Big Bertha grew, Ross Perot puts MCI's McGowan first, real soap after making movies, and more. *by Laurie Kretchmar*

BOOKS & IDEAS 115

Felice Schwartz's new defense of her "mommy track" thesis offers companies practical advice; a Boston economist's one-two punch to America's spendthrift fiscal policy; and Galbraith's latest.

KEEPING UP 119

A long shot in the presidential race, greedy writers, and other matters. *by Daniel Seligman*

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EDITOR'S DESK

THE SUN ALSO RISES

■ We try to make a point of getting beneath the obvious. While much of the press is talking about how Japan's current economic troubles will undermine its long-term competitiveness, FORTUNE's two-part cover package pronounces that Japan will rise mightier than ever. In "Why Japan Will Emerge Stronger" (page 46), senior editor John Curran makes the case for the current slump as, in fact, a shrewd strategic move that will bring Japan into an era of more manageable prosperity. Senior editor Richard Kirkland, in "What if Japan Triumphs?" (page 60), lays out how the U.S. will be affected if Japan becomes the reigning economic power.

Curran (left) and Kirkland worked both hemispheres.

Curran, who is also FORTUNE's investment editor, isn't averse to defying the conventional wisdom on Japan. He won an Overseas Press Award in 1988 for a prescient article on Tokyo's stock market. To report his current story, he went to Japan to tap a network of sources he has built up over the years. He also relied on some of our Tokyo crew—reporters Emily Thornton and Cindy Kano. During his trip, which coincided with cherry blossom season, Curran was surprised to see how optimistic the Japanese remain. Says he: "There is none of the gloom in public sentiment that you see in America."

Emily Thornton

Cindy Kano

Neither is Kirkland a newcomer to Japan or the international scene. In his life before editing our Politics & Policy section, he covered Washington and then served as our chief European correspondent, based in London. Looking back over his 13 years at FORTUNE, he says it all fits together: "If you are going to cover economic policy and politics, Japan has to be part of just about every story."

Kirkland spoke with over 40 experts to parse the implications of Japan's growing strength. "The U.S. has been the undisputed leader for decades," he says. "What worries even the many optimists are all the unknowns a change in power would entail."

Donald Holt, FORTUNE's international editor, who oversaw this cover package, believes our readers will gain a fresh perspective from it: "These stories will stir up response because we are really looking behind, underneath, and ahead of the conventional views on Japan. We are also going against the grain."

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly with three issues in October by Time Inc. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President and Chief Executive Officer; Richard M. Johnston, Secretary. Subscriptions: U.S. possessions one year $57.50; Canada one year $70; elsewhere one year $95. Second-class postage paid at New York, NY, and at additional mailing offices. Subscription rates for U.S. and Canada: $53.75. Second-class postage paid at New York, NY, and at additional mailing offices.
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PETER YATES—SABA

Striking Kroger workers at a store in Ann Arbor, Michigan

by a coalition of environmental, labor, and consumer groups out to sabotage the Uruguay Round of GATT negotiations. The ads, which cost $74,000, ran in the New York *Times* on April 20 and the Washington *Post* on April 22. That was the day President Bush and U.S. Trade Representative Carla Hills met with European Community President Jacques Delors in what turned out to be another vain effort to persuade Europe to cut agricultural subsidies.

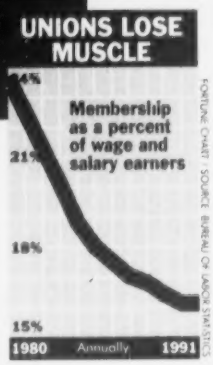
The ads argue that GATT's attempt to harmonize global trade regulations would override U.S. laws that protect health, jobs, and the environment. One example, provided by Lori Wallach, an attorney for Public Interest, the consumer group founded by Ralph Nader: A GATT panel ruled last year that American laws banning the import of tuna not "dolphin-safe" violated international free-trade agreements. The decision suggested that a country could refuse imported tuna only if it was spoiled, say, and a health threat. Says Wallach: "It basically means if the tuna doesn't give you botulism, it doesn't matter if you drown Flipper on the way."

Former Secretary of Labor William Brock, a free-trade supporter, calls the ads "deceptive and irrational." He cites a recent Organization for Economic Cooperation and Development study, which predicts that a new GATT agreement would result in a $195 billion increase in world income by the end of the decade. Says he: "It would be really dumb to regress at this point."

Maybe. But 138 Congressmen are sponsoring a resolution that would vote down any GATT agreement that rides roughshod over U.S. laws.– **R.T.**

CATERPILLAR'S UNION FALLOUT

■ Sometimes unions have the last laugh. Although the United Auto Workers seem to have caved in to **Caterpillar** CEO Don Fites's threat to replace its members with nonunion workers, hiring permanent replacements for strikers at **Ravenswood Aluminum** had a different result. The directors fired CEO R. Emmett Boyle. Among the reasons: Boyle's resistance to renewing negotiations with the United Steelworkers. They went out in November 1990 and were soon replaced.



Union membership is down (see chart), and only two other major strikes are in progress. The International Longshoremen who operate tugboats in New York have been out since 1988. Replacements are at the helm. In Michigan, 7,800 Food and Commercial Union members are striking **Kroger** supermarkets. The longshoremen simply want a better contract than the one offered. But the Kroger strike resembles Caterpillar's—workers want a deal like the one the union reached with **A&P**, a competitor.

These so-called pattern contracts are common industry by industry. But many companies argue that their businesses really have little in common. Caterpillar, for example, says it depends far more on exports than **Deere**, which signed a contract with the UAW.

Detroit has grudgingly accepted pattern bargaining for years. How will this play out when the UAW opens negotiations with the automakers next year? Most industry observers believe that once one company agrees to a contract, the others will argue unique circumstances and try to chip away pieces of the pattern contract. But don't look for threats of replacement workers.

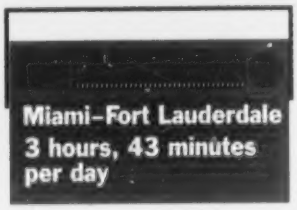
Similarly, the Communications Workers of America are expected to reach agreement with **AT&T** on a contract that expires May 30. These days most employers and workers recognize that jobs are scarce and foreign competition real. Says AT&T Chief Executive Robert Allen: "We have more areas of common interests than differences." **– Andrew Kupfer**

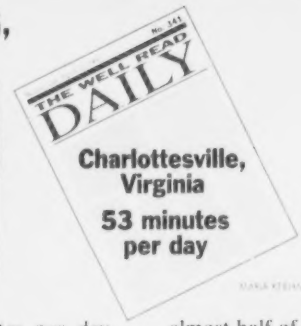
BEWARE THOSE FOREIGN BUBBLES

■ The Tokyo stock market collapse may be the biggest in the past couple of years (for more, see Competition). But the Nikkei's tumble wasn't the only foreign fall. Wild investor speculation in Taiwan, South Korea, and Indonesia—all countries with strong economic growth—inflated share prices until they simply burst.

Amazingly, points out Michael Murphy, editor of the *Overpriced Stock Service* newsletter: "At the time bubbles come apart, no one can quite believe how far down prices will go. But history shows that all bubbles end in busts, and the bigger the bubble," Mur-

TOP CITIES FOR WATCHING, LISTENING, AND READING Per capita





■ Americans watch television, listen to the radio, and read newspapers and magazines as much as they sleep: an average of eight hours, three minutes per day. See above for the cities that devote the most hours to each of these categories. Which city spends the most hours per capita on all forms of media? Youngstown, Ohio. Its denizens put in eight hours and 50 minutes per day, almost half of them in front of the tube.

Young & Rubicam, an ad agency, found that Americans watch TV an average three hours, 48 minutes a day (up 22 minutes from 1975) and listen to the radio for three hours, 21 minutes (up 19 minutes). Newspapers get 34 minutes (a minute less) and magazines 20 minutes (five more). **– R.T.**

phy adds, "the bigger the bust."

Which foreign market could be the next to pop? Some advisers are casting a wary eye on Latin American stocks. Since 1985, many have risen more than 20-fold as governments reformed their economies and privatized industries. Bullish investors—there are plenty—believe these changes will lead to strong long-term growth.

But a skeptical Jean-Marie Eveillard, manager of the top-rated Sogen International mutual fund in New York City, wonders "if it's going to be a repeat of the 1970s, when Americans poured billions of dollars into those markets only to get stiffed." Back then the governments refused to pay back bank debt; this time they could renationalize the companies or, more likely, reverse their policies, causing the stock prices to tumble.

Another "bust" candidate is India, where the stock market has doubled since the beginning of the year, when the government instituted major economic reforms. Says Morgan Stanley investment strategist Barton Biggs: "It's getting toward bubble proportions, with the 20 biggest stocks selling at 50 times earnings. People are buying stocks because of their names rather than their valuations." Example: **Tata Iron & Steel**, which investors have driven up to 80 times earnings since the government decontrolled steel prices. Morgan Stanley's India expert, Vinod Sethi, warns, "Import duties on foreign steel are also coming down and international prices are low. Plus, the company makes poor quality steel." **– Joshua Mendes**

A STEREO BRUTE FROM RUSSIA

■ What do you do when your main customer disintegrates? At least one military supplier to the former Soviet Union has a possible solution. **Okean Tribor**, a St. Petersburg manufacturer of acoustic equipment for tracking submarines, now turns out hi-fi components good enough to catch the attention of Western audiophiles.

One U.S. fan: Keith Johnson, an MIT material sciences professor. He happened across the product last summer while touring Russian factories as a consultant for Batterymarch, a Boston investment firm. Excited by what he heard, Johnson brought home amplifiers, turntables, and speakers so that others could judge—and kept one set for himself. Says the classical music buff: "People who come into my house can't believe their ears."

The professor gave another set to Cambridge Soundworks, a pricey audio catalogue company co-owned by legendary hi-fi innovator Henry Kloss. The outfit liked what it heard and accorded special bravos to the amplifier. Enthuses product manager Walter Schofield: "It's a brute. Its bass is absolutely tremendous."

As a result, Cambridge is investigating ways to import these amplifiers and sell them through its catalogue, perhaps by the end of this year. Okean Tribor has offered to provide them for $100 each. That would leave Cambridge plenty of room to undercut equivalent U.S. and foreign brands that go for $600 to $1,000. **– J.M.**

Professor Johnson with his sundry Russian souvenirs

STEVEN M. LEWIS

NOW HEAR THIS

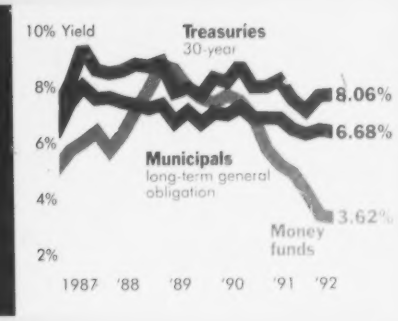
■ **JOHN KENNETH GALBRAITH,** 83, Harvard economist, liberal, and author of 28 books:
"I spent my youth and early manhood worrying about corporate power. Now I worry about corporate incompetence."

■ **MICHAEL A. WEISS,** 51, president of Express, whose chic, fast-growing women's clothing stores are a highly profitable part of the Limited:
"We figured out that a customer base with a salary was better than a customer base with an allowance."

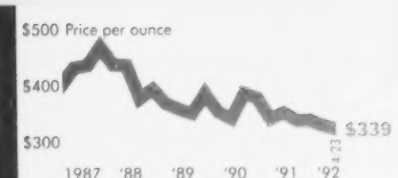
STATE OF THE MARKETS

STOCKS

BONDS



GOLD



FORTUNE CHARTS. CHARTS SHOW END-OF-QUARTER FIGURES.
*BASED ON EARNINGS FOR THE LATEST FOUR QUARTERS.
SOURCES: STANDARD & POOR'S; BOND BUYER; IBC/DONOGHUE'S MONEY FUND REPORT; COMMODITY EXCHANGE

nies **International Paper**, **Stone Container**, and **Georgia-Pacific**. Of these companies he says, "Cost restructuring has generated surprisingly good earnings on very limited sales volume."

Geoffrey Raymond, chief investment officer of Timco, the $4.5 billion money management arm of Travelers, is one of many managers trying to balance growth and value stocks. "Right now the marble is in the middle of the plate, but it is rolling toward the cyclical stocks," he says. One he likes is **Williams Cos.**, a gas pipeline company with a telecommunications subsidiary. The stock sells for ten times Raymond's 1993 earnings estimate. Earnings are growing 25% annually.

And what about that dollop of growth stocks? Plenty are available (see Portfolio Talk). Michael DiCarlo, who runs the John Hancock Special Equities Fund and comanages the firm's global fund, likes a couple of small leisure stocks. **SLM International** makes toys and CCM hockey gear. It sells for $20, and DiCarlo thinks it will earn $1.20 a share this year. He also recommends **Charter Golf**, maker of Ashworth golf shirts. Masters champion Fred Couples is the product spokesman, and the shirts, sold only in pro shops, are jumping off the shelves. The stock goes for $8, or 23 times DiCarlo's per share earnings estimate for this year.

Raymond of Timco has been looking for growth in technology stocks, including software colossus **Microsoft**, which fell recently on a weaker than expected growth forecast and trades near $120 a share. Raymond figures earnings should increase about 28% per year and says, "I think the stock will sell for $150 to $160 in the next 12 months." In the banking sector Raymond favors **Synovus Financial**, which owns banks in Sunbelt states. Its prize possession is Total System Services, a bank card data processor that handles AT&T's Universal Card. That business is booming.

■ **BONDS.** What to do. Yields on CDs and Treasury bills are so miserly that you have to wonder if they're worth the bother, but if you want safety, where else can you look? In a few places, as it turns out, that offer savvy savers decent yields with security.

Start at the Treasury market—but instead of buying a bill, note, or bond, investigate Treasury Strips (a tortured acronym meaning separate trading of registered interest and principal of securities). Essentially zero-coupon bonds, Strips are more volatile than their interest-paying counterparts, but their yields to maturity are higher. For individuals who buy and hold bonds until they expire, that extra yield is a gift.

The cheapest Strips now, says Peter Hegel, who oversees $15 billion in fixed-income funds for Van Kampen Merritt, are those maturing in ten to 17 years. A ten-year Strip currently yields 8% to maturity, vs. 7.60% for a straight bond. In reality the difference may be larger because the straight bond's yield figure assumes that interest can be reinvested in the same bonds, which sell in $1,000 increments. Most individuals won't get interest payments large enough to allow that. Reinvest in a money fund yielding 4%, and the straight bond's yield to maturity falls to 6.61%.

For a three-way tax break—federal, state, and local—head for municipal bonds. Insured bonds, a smart way to bypass state and local budget difficulties, pay less than uninsured issues, but competition

MIXED REVIEWS FOR THE CHIEFS

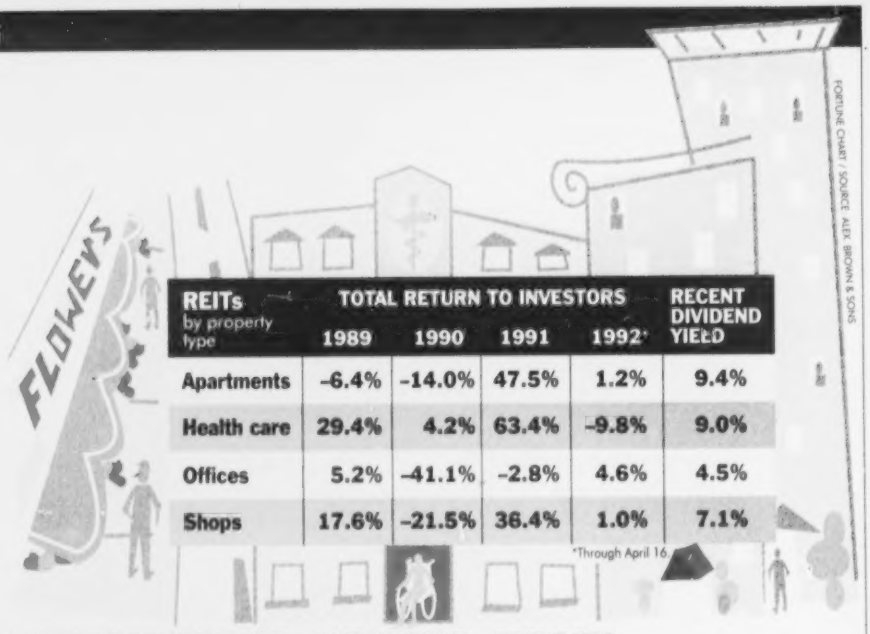
The market hasn't played favorites with the political parties, though for now George Bush leads the pack.

PRESIDENT	YEARS IN OFFICE	AVG. ANNUAL RETURN*
Kennedy (1960-63)	3	9.3%
Johnson (1963-68)	5	7.7%
Nixon/Ford (1968-76)	8	-0.5%
Carter (1976-80)	4	7.6%
Reagan (1980-88)	8	9.0%
Bush (1988-present)	3	12.4%

*For S&P 500, from November to November.

among insurers has reduced the yield give-up for these triple-A bonds to only about 0.15 percentage point. A Hegel recommendation: the noncallable **Modesto, California, Irrigation District** bonds, paying 6.5% and due 2011, currently trading at par.

Another triple-A, triple tax-exempt alternative favored by David Baldt, head of fixed-income investments at Morgan Grenfell, is short- to intermediate-term munis backed by federal housing authorities. Because federal agencies like Ginnie Mae guarantee principal and interest, says Baldt, "these bonds are Treasury notes in sheep's clothing." Consider the Ginnie Mae–backed **Allegheny County, Pennsylvania, Residential Finance Authority** 6.5% bonds.



REITs by property type	TOTAL RETURN TO INVESTORS 1989	1990	1991	1992*	RECENT DIVIDEND YIELD
Apartments	-6.4%	-14.0%	47.5%	1.2%	9.4%
Health care	29.4%	4.2%	63.4%	-9.8%	9.0%
Offices	5.2%	-41.1%	-2.8%	4.6%	4.5%
Shops	17.6%	-21.5%	36.4%	1.0%	7.1%

*Through April 16

FORTUNE CHART / SOURCE: ALEX. BROWN & SONS

WHERE RETURNS ARE—AND AREN'T—BUILDING

Real estate investment trusts are among the soundest operators on America's ravaged real estate scene. Apartment REITs look strong because demand is brisk while supply scarcely grows.

■ **REAL ESTATE.** Like the nerdy kid from high school who roars back to the class reunion in a Ferrari, long-neglected real estate investment trusts (REITs) are getting the last laugh. It's not hard to see why. While private developers loaded up on speculative properties in the Eighties, conservative REITs, disciplined by the demands of the public market, used leverage judiciously and bought properties that actually made economic sense. When the giants crumbled, taking banks, insurance companies, and other financiers down with them, boring old REITs were the only ones left to sift through the rubble.

And what a wonderful wasteland it is. Says Martin Cohen of the investment advisory firm Cohen & Steers in New York City: "It's a buyer's market of unprecedented proportion." Bruce Garrison of Kidder Peabody believes apartment buildings have the best fundamentals. New construction has virtually stopped, and owners are demolishing some older buildings, while the uptick in the economy will increase demand, Garrison says. He especially likes **Property Trust of America**, which buys buildings in the Southwest and whose apartments boast 98% occupancy. The shares yield 7%. Garrison expects shareholders who hold the stock for three years to earn 13% annually in dividends and appreciation.

Health care REITs, which returned a remarkable 63% to shareholders last year, will continue to perform admirably, says Mike Kirby of Green Street Advisors, though the numbers will come down to earth. He likes **Nationwide Health Properties** and **Health Care Property Investors**. Expect a total return of close to 15% annually for the next few years, he says.

Michael Oliver, president of PRA Securities Advisors, thinks muscular REITs that buy community shopping centers will also excel. As frugality becomes chic, centers with "category killers"—successful specialty retailers such as Circuit City Stores—will continue to benefit at the expense of department-store-dependent regional malls. In this category, Oliver says that **Weingarten Realty Investors**, **Federal Realty**, and **Kimco Realty** are the powerhouses.

■ **COMMODITIES.** Will the economy's rebound restore gold's lost luster? Don't bet on it. Experts like Martin Murenbeeld say gold's decline to a recent six-year low of $338 an ounce doesn't signal a bottom. Murenbeeld, an economist at the Victoria, British Columbia, consulting firm that bears his name, notes that gold has a history of poor performance early in recoveries. Says he: "We think gold will average $343 this year, although in a worst case it could fall below $300."

Industrial demand for several metals is in a slump. James Kneafsey, president of the institutional investment firm Cambridge Financial Management, believes many metal prices, already low, could fall another 10% to 15% this year.

That forecast includes silver and platinum. Silver, which peaked in January at $4.41 an ounce, is bobbing around $4 in the face of oversupply. Platinum, a key component of catalytic converters, sold recently at $344 an ounce. Soft car sales and better converter technology that requires less platinum have kept prices weak.

The best way for a commodities investor to play the economic recovery is to buy stocks of efficient metals and mining companies. The key is to choose companies that are technologically proficient, with low production costs and plenty of reserves.

Analyst John Tumazos of Donaldson Lufkin & Jenrette thinks **American Barrick Resources** and **Newmont Mining** fit the bill. By preselling its gold production, American Barrick has locked in a sweet price of $425 per ounce for the next three years. At $23 a share the stock is trading at 19 times Tumazos's 1992 earnings forecast. Newmont Mining is a large, low-cost producer that can make money when some others can't. Its stock, recently $37 a share, trades at 25 times estimated 1992 earnings.

At County NatWest, analyst Ron Shorr favors multifaceted **Freeport-McMoRan** and **Inco**, a leading nickel producer. Shorr thinks both companies can increase earnings per share to $1.75 in 1993. Freeport recently sold for $41 a share. Inco is more volatile, but Shorr considers the stock cheap at $29. F

This report was written by Andrew Serwer (stocks), Susan Kuhn (bonds and commodities), and Shelley Neumeier (real estate).

VICTIMS OF THE REAL ESTATE CRASH

The glut in offices and other commercial properties will keep piling big-dollar pain on financial institutions, taxpayers, savers—and just about the whole world.

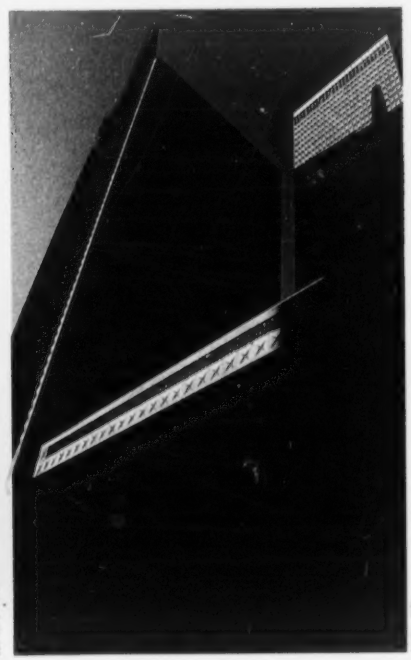
■ *by Carol J. Loomis*

NOT MANY PEOPLE realize just how stunningly big the commercial real estate debacle really is or how savagely it will continue to sweep through the U.S. economy. For a frame of reference, imagine that the stock market—now worth around $3.8 trillion—was to fall in value by 30%, a loss of about $1.1 trillion. Assume also that many of the market's most visible and active participants were on, say, 80% margin. And finally, consider that the economics of the market after the fall suggested strongly that values would stay depressed for years. Would these facts grab your attention?

Substitute "commercial real estate" for "stock market," deflate the dollar figures by just a bit, and you've got the gist of today's drama. There is nothing hypothetical about it. By one estimate the total value of all U.S. commercial real estate was around $3.5 trillion in 1989. It is now perhaps 30% less. Just a diminution of a trifling $1 trillion or so, about twice what the U.S. stock market gave up on October 19, 1987, in the crash heard around the world.

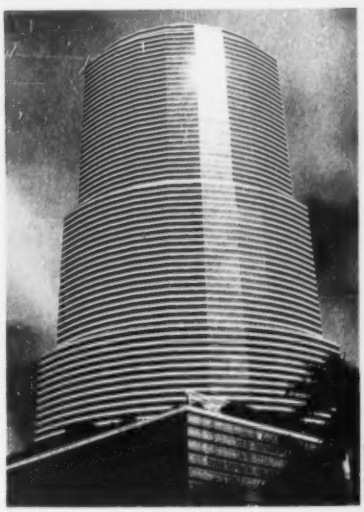
A SKYLINE OF TROUBLED BUILDINGS

You can't hide a distressed office tower, and these are U.S. standouts. Vacant a year and a half, 1540 Broadway in Manhattan (left) just sold for less than half what lenders put up to build it. Dallas's NCNB Center (below), now 75% vacant, once housed RepublicBank, which failed because of troubled real estate and energy loans. The current owner: an unhappy FDIC.



Chicago has more than 25 million square feet of vacant office space, but new structures, among them the one-million-square-foot Chicago Title & Trust building, are still going up. Developer Michael Pepper says his baby is about 35% leased but tenant hunting at prevailing rents hurts: "When an owner signs a lease today, he makes a losing deal for ten to 15 years."

Now called International Place, this I.M. Pei–designed concoction in Miami was originally the home of failed CenTrust Savings. Its innards contain one of the celebrated symbols of savings and loan excess: gold-plated fixtures in the executive bathroom. Built for an estimated $170 million, the tower was taken over in early 1990 by the Resolution Trust Corp., which finally unloaded it last year to Winthrop Financial of Boston for $44 million. Vacancy rate: 50%.



The force of this disaster is smashing into the life of almost every American. Before this mess is over, a large number of buildings that the U.S. simply doesn't need will fall to the wrecking ball. New construction has slowed to a crawl, causing pain to those near at hand, especially in the building trades, and impeding the economic recovery. A coming pinch in property taxes will affect municipal services unless the shortfall can be made up from other sources.

The banks and life insurers that financed all those structures have been gripped by anxiety and driven in many cases to parsimony in the granting of all kinds of loans, not just those to real estate borrowers. The lenders are also still being presented with new catastrophes, most recently the foundering of the Reichmann family's real estate development company, Olympia & York (see box). Ordinary people are uneasy about the nation's financial system. Do you feel a shaft of doubt about the safety of your savings? It was sent your way by commercial real estate.

Because vacancy rates are sky-high—almost 19% for offices—your qualms are apt to continue for quite a while. According to calculations made by Edward Frydl, associate director of research at the Federal Reserve Bank of New York, there is enough excess office space in the nation right now to, in effect, supply the needs of business for the next ten years. To derive that estimate, he assumed an optimistic 3% growth rate for service sector employment over the decade and took past trends as an indicator of how much space each service worker uses. Coming at the problem in a somewhat different way, David Shulman, director of real estate research at Salomon Brothers, has produced an equivalent projection of 11.8 years. So it will be a decade at least before the commercial real estate market comes out from under.

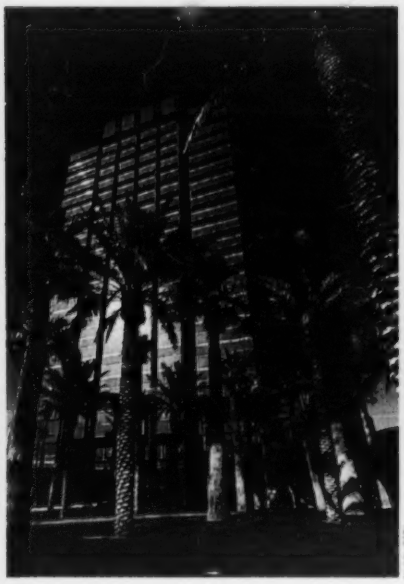
The real estate glut was created by a building frenzy in the 1980s that lost touch

CITY	OFFICE VACANCY RATE as of 3/92
Miami	27.2%
Dallas	26.6%
Phoenix	25.7%
St. Louis	22.6%
Cleveland	22.5%
Manhattan (downtown)	20.6%
Manhattan (midtown)	14.9%
Denver	20.5%
Minneapolis/St. Paul	20.0%
Los Angeles	19.4%
San Diego	19.3%
Atlanta	17.8%
Houston	17.7%
Boston	16.8%
Chicago	16.5%
Detroit	15.1%
Philadelphia	14.6%
Seattle	14.0%
Washington, D.C.	11.5%
San Francisco	10.8%
Honolulu	3.7%

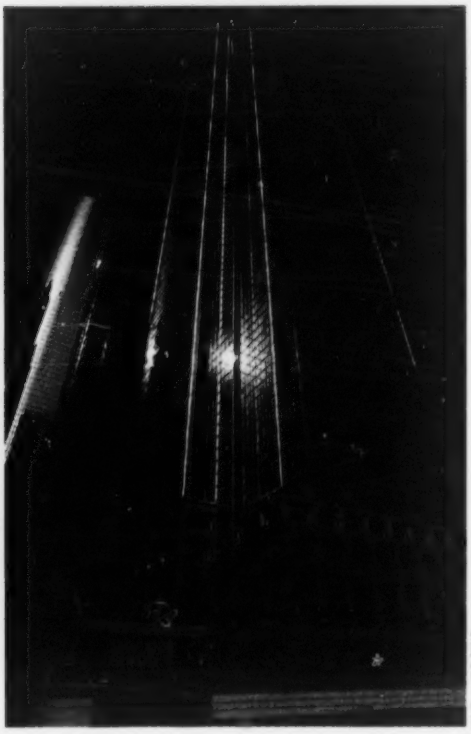
Back in 1981 the national vacancy rate for offices in downtown business centers was 4.8%. Today it's a scary 18.8%. Among the cities where vacancies rose markedly in the last year are Dallas, Cleveland, San Diego, Minneapolis/St. Paul, Los Angeles, Chicago, and Seattle.

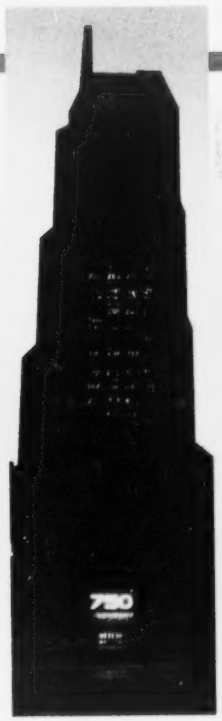
FORTUNE CHART / SOURCE: CB COMMERCIAL

Those palms out front don't signify palmy days for Phoenix Plaza Two, an end-of-the-boom speculation by US West and Newport Beach, California, developer Koll Co. Completed in 1990, the 20-story structure has 400,000 square feet and is 50% vacant. It competes with other strugglers in overbuilt Phoenix, but the leasing agent looks on the bright side: Plaza Two can accommodate a tenant who wants ample space.



Just opened, Two California Plaza has location, location, location in downtown Los Angeles. It is also 77% empty, empty, empty. The landlords, Metropolitan Structures (partly owned by Met Life) and Cadillac Fairview, are trying to hold off leasing until rents head up.





THE RIPPLE EFFECT OF ONE BUILDING

When Developer David Solomon (upper right) put Manhattan's 750 Seventh Avenue into bankruptcy, he left many a creditor hanging. Among them (clockwise from lower right): William Greenblatt of Paramount Plumbing in the Bronx; George Lois, of ad agency Lois U.S.A.; and (left to right) Arthur Carrione, Dominick Moliterno, and Sheldon Feinstein of Bergen County Cut Stone in New Jersey.

with what the U.S. needed in the way of commercial buildings—offices, stores, hotels, apartments, industrial facilities. In turn, the frenzy got much of its steam from wrongheaded tax laws that encouraged this vast misallocation of resources. Even now, the spacemaking machinery isn't entirely turned off. A few end-of-the-boom buildings are still straggling into markets that don't need them, and some contractors are putting up "build to suit" structures designed for the specific requirements of corporate clients.

WORKERS not fortunate enough to land those special jobs have been wracked by an industry unemployment rate of more than 17%. The value of new commercial construction in 1992, as estimated by data gatherer F.W. Dodge and adjusted for inflation, is expected to be the lowest since 1976. The excess space around has rents on a toboggan. At the annual meeting last fall of the sober-sided Urban Land Institute, an important realty research organization, the gloom could not have been cut with a bulldozer. One program moderator, a woman, wound up her session with a distraught cry: "Goddamn it, our industry is in shit!"

Some of what she bewails is important only to the direct participants. Falling rents, for example, are in themselves a zero-sum game: What landlords lose, tenants gain. But falling rents also create a plunge in values that has sweeping effects. Measuring one of these, David Wyss, research director of DRI McGraw-Hill, calculates that for every $1 lost in construction wages, salaries, and profits, suppliers lose $1.07 in business.

To see how the ripples of real estate rock boats all around the economy, consider a new 35-story office tower just north of Times Square in Manhattan. Completed in late 1990, the building, 750 Seventh Avenue, was put up by a once smashingly successful New York developer called Solomon Equities and financed with a $187.5 million construction loan from a Citicorp syndicate. From the front, the building is crisply handsome, a structure of sloped glass surfaces topped by a tapered spire. Toward the rear there are problems: In March a fierce wind blew out several windows, which are now boarded shut. And inside appear the sure signs of real estate sickness. The building is absolutely empty except for a lone security guard in the lobby and a clutch of building employees scattered here and there. Prospective tenants could probably negotiate 18 months of free rent on a 20-year lease. But nobody has signed up—and this business of the windows won't help.

Last year Citi, which is loaded with $6.6 billion in problem commercial real estate assets, moved to foreclose on 750 Seventh "to get the key," as the trade says. But Solo-

mon Equities quickly sidestepped by putting the building into bankruptcy, hoping to salvage a sliver of equity. Among 750's long list of unpaid creditors when it filed for Chapter 11 were Tishman Construction and Otis Elevator. Also hooked were a deli a half-block away that provided food to Solomon's staff and was stiffed for $75; a plumbing company in the Bronx that installed $1.5 million of piping and fixtures; a Manhattan horticulturist whose plants at $2,000 a pot keep the security guard company; a stone company in New Jersey that supplied $1.2 million of granite for the building's lobby and entryway; and Manhattan advertising agency Lois/U.S.A. Some creditors have since settled for less than 100 cents on the dollar, but among those still owed is the ad agency. Says its boss, George Lois, of the $42,267 he's out: "Hey, that's life."

Beleaguered New York City also has a stake in 750 Seventh. Just to get the building up and gracing the Times Square area that the city is trying to lift from sleaze, the Big Apple granted the owners tax concessions for seven years. For now, the building's annual taxes are only $1.8 million and these are being paid by the Citicorp syndicate. But that echoing empty space is a forceful reminder of the sword that commercial real estate holds over this city and many other urban areas.

THOUGH THE RANGE is wide, big cities get an average of 54% of their tax revenues from levies on property and much of that typically comes from commercial buildings. In Los Angeles County the estimated take from commercial property is $2.3 billion annually, and in New York City it's $6.8 billion. Neither locality can afford to lose any slice of that income, yet the drop in values raises the strong probability that they will.

An early real estate casualty, Dallas, has already felt that sting. When property values stopped rising in the middle of the 1980s, the city's first response was to cut services and whittle the pay of municipal employees. Then market values of both homes and commercial properties began dropping. Commercial, though, fell further and faster, from $34.7 billion in assessed value in 1986 to $30.6 billion for 1991. Dallas has raised tax rates for everybody to keep the revenues coming. Still, commercial properties today account for only 66.7% of the tax base, vs. 67.8% back in 1986.

REPORTER ASSOCIATES *Sandra L. Kirsch, Tricia Welsh*

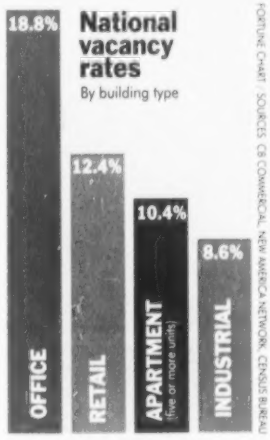
Versions of that script may be played out around the country in the years ahead. Tax revenues from commercial properties are almost inevitably headed down in such overbuilt cities as Chicago, Los Angeles, Miami, New York, and Phoenix—and somebody is going to have to pick up the slack. Maybe you.

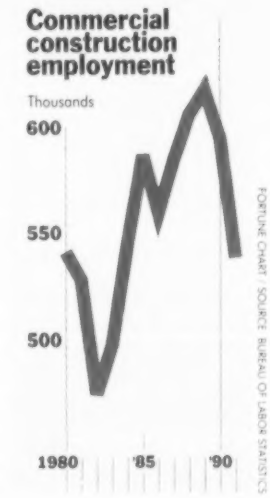
Normally, the whole apparatus of commercial construction helps energize an economic recovery. Not this time. Wyss of DRI/McGraw-Hill believes that the absence of construction's "early kick" accounts for the recovery's difficulty in getting off the ground. Another economist, Kenneth Rosen, at the University of California at Berkeley, thinks the lack of vitality in construction could shave half a percentage point of growth off the recovery ahead.

The repercussions are brutal for anyone who feels compelled to sell property in today's market. Alas, that's all of us taxpayers by way of our agent in Washington, the Resolution Trust Corp. The RTC has been dumping the commercial properties of failed savings and loans at prices typically well below 50% of their original stated value. Every dollar the RTC doesn't get is a dollar added to the taxpayers' bill.

Just how bad things are hits home when private sellers have to step down to accept cellar prices on major properties. The last deal of that ilk to merit national attention involved Manhattan's 1540 Broadway, another Times Square denizen and Citicorp special. Now in Chapter 11, this 44-story, 1.1-million-square-foot glass complex cost an estimated $330 million to build, and was largely financed by a $253 million construction loan provided by Citi and a syndicate of 17 Japanese banks and financial institutions. Completed in late 1990, the building stayed cavernously vacant and unwanted until this March, when the German media company, Bertelsmann, agreed to buy it for $119 million—which will be all the bank syndicate gets, period. Considering the lenders involved, the results give new meaning to the term Japan-bashing.

In many ways, the most profound effects of the real estate crisis are falling, somewhat justly, on the industry's lenders, without whose blessings and bankrolls none of this mess could have materialized. For cons banks and insurance companies have made real estate loans, but this time the injured include lenders that had to detour to find the trouble. Property and casualty insurers don't normally do much real estate finance. Nonetheless, USF&G got the bug for this business in the mid-1980s because of the returns it seemed to promise, and swung right in there with $1.1 billion in mortgage loans and direct investments that are now causing it enormous discomfort.





Several finance companies have taken wicked beatings, among them Household International, which has $667 million in commercial real estate loans and properties and is flailing in the quicksand. In the past two years Westinghouse Financial Services has suffered operating losses of $2.5 billion, mostly from commercial real estate. Its parent, Westinghouse Electric, reported a $1.1 billion loss in 1991 and has watched its stock fall by about 50%.

The commercial banks and life insurance companies simply put themselves on cruise control. All told, banks have about $400 billion in commercial real estate loans outstanding and $26 billion in foreclosed properties for a total exposure of $426 billion. The life insurers have about $256 billion in mortgage loans and $47 billion of real estate they own directly—an estimated $7 billion of that foreclosed properties—for a total of $303 billion. Add up the exposure of the banks and life insurers, and you've got a $729 billion

bundle. That's big. In fact, it's more than twice what the two industries have in equity capital.

How much of that exposure is currently bad news? Government statistics show that at year-end 1991 the banks had $45 billion in commercial real estate loans, about 11% of their total, that were "nonperforming" in one sense or another. Some of these loans were overdue by 30 days or more; some were paying interest but not on the originally contracted terms; and some were actually performing loans on which full payment was nonetheless doubtful. On these loans, bankers were applying some payments received to principal reduction rather than recording them as interest.

For the life insurers, there are no exactly comparable figures. But at year-end, loans 60 days overdue or in the process of foreclosure amounted to about $14 billion. When the properties already foreclosed are added in, the two industries had a $92 billion bag of trouble at year-end. That's $92 billion not contributing fully to earnings and $92 billion of principal under a dark cloud.

With real estate values as unstable as they are now, extraordinary controversy exists about what the carrying value of loans should be on banks' and insurers' books. Are regulators or accountants going to force the lenders to make large provisions for losses to reflect the drastically low valuations that the market is putting on properties? This is not an academic accounting argument. Big write-downs would mean reduced capital, which might drive weaker institutions into mergers and cause some to fail. It is a question of who survives.

The argument recalls the early days of the so-called LDC crisis, when it became apparent that Latin American and other less developed countries could not possibly pay the huge debts they owed banks or anybody else. In those days the regulators tacitly agreed to let the banks carry their LDC loans at unrealistically high levels, so as not to reduce their stated capital to a pittance. But today at least some bank regulators are arguing that real estate loans should not be given the same break. Meanwhile, the state regulators who oversee the insurance companies have until recently been out to lunch on this issue. Though new rules are now being written, mutual insurance companies have not been required by the "statutory" accounting principles they follow to set up reserves for problem loans at all. Some mutuals, among them Prudential and Northwestern Mutual, have nonetheless done so.

PUBLICLY OWNED insurance companies and banks are required by generally accepted accounting principles (GAAP) to carry their loans and foreclosed property at "fair value." By definition, that's the amount at which a transaction—not including forced or liquidation sales—could currently take place between a willing seller and a willing buyer. In a market featuring many transactions, an appraiser would find the fair-value concept entirely serviceable. But in today's market both "willing seller" and "willing buyer" are oxymorons. In general, there is a huge spread between what the seller wants to get and what the buyer wants to pay. Consequently, gridlock prevails, except for transactions that resemble liquidation sales—such as, for example, the Bertelsmann deal.

So appraisers and regulators are forced to fall back on another method of valua-

HOW THE BIG LENDERS RANK IN REAL ESTATE

These tables list the ten largest banking companies and life insurers by total assets but rank them in order of their commercial real estate exposure. One inconsistency in the figures: Nonperformers for the banks include some loans less than 90 days overdue, but those for the insurers do not.

BANKING COMPANY	COMMERCIAL REAL ESTATE ASSETS		
	Total as of 12/31/91 in millions	Total as a percent of stockholders' equity	Nonperforming (loans and foreclosed properties) in millions
Citicorp	$23,000	242%	$6,608
Wells Fargo	$14,233	435%	$1,513
Security Pacific	$12,774	368%	$2,732
NationsBank	$10,994	169%	$1,813
Chemical	$10,706	147%	$2,492
Chase Manhattan	$9,956	187%	$3,336
BankAmerica	$9,544	118%	$1,448
First Chicago	$4,131	139%	$744
Bankers Trust	$3,040	89%	$909
J.P. Morgan	$1,259	21%	$53

LIFE INSURANCE COMPANY	COMMERCIAL REAL ESTATE ASSETS		
	Total* as of 12/31/91 in millions	Total as a percent of policyholders' surplus	Nonperforming (loans and foreclosed properties) in millions
Prudential of America	$29,200	447%	$858
Metropolitan Life	$27,867	585%	$1,725
Teachers Insurance & Annuity	$21,945	718%	$1,581
Aetna Life	$19,071	1,028%	$2,150
Travelers	$13,404	654%	$3,260
Equitable Life Assurance	$12,173	1,100%	$765
John Hancock Mutual Life	$11,135	705%	$534
Connecticut General Life	$10,081	673%	$593
Northwestern Mutual Life	$6,998	423%	$131
New York Life	$6,900	263%	$417

*Does not include real estate held in joint ventures or in separate accounts managed for customers.

FORTUNE TABLES

tion, which is to estimate a property's future cash flows and discount these back to present value. This process has a surface feasibility. But discounting requires you to use an interest rate high enough to compensate for the risk of this investment vs. alternatives, a matter immediately introducing controversy into the calculation. Beyond that, the rules say cash flows should be estimated on the basis of "reasonable and supportable assumptions." How do you possibly determine those in a market that's totally in flux?

To illuminate the challenge, let's look at the phenomenon charmingly known as "tenant migration," which means a renter moves on for better space, cheaper rent, or some combination thereof. Says Richard Boyle, vice chairman of Chase Manhattan: "Right now there is tremendous mobility in the market." Thus, UPS moves its headquarters from Connecticut to Atlanta, and Cabot Corp. returns from the Boston suburbs to downtown—yes, the flow sometimes even goes in that direction. First State Management, a Boston insurance company, leaves an older building in the financial district for a new tower three blocks away. A fact that helps: Asking rents in downtown Boston have dropped from the $50-per-square-foot range in 1986 to $30 or so.

"The tenants are having a picnic," says Boyle. The owners are not. They have resorted to a form of cannibalization in which landlords hold out every inducement possible—cheap rent, no rent for a year or two, lavish improvements, the defrayal of moving costs—to get or retain tenants. So the vacancies roll from building to building. When Bertelsmann occupies its new Times Square pad, for example, it will vacate 500,000 square feet in other Midtown spots.

HOSTAGES TO A WACKY REAL ESTATE WORLD

Executives on the spot (clockwise, from upper left): Victor Palmieri is struggling to turn around Mutual Benefit Life. Bankers Carl Reichardt of Wells Fargo and John Reed of Citicorp are up to their tie knots in real estate loans. Mitsubishi Estate's Kiyoaki Hara, who took flak for invading Rockefeller Center in the first place, now faces more serious problems. A huge number of his leases expire in 1994.

OWNERS with expiring leases live in dread. Mitsubishi Estate owns 80% of the Rockefeller Group and, by extension, the same proportion of Manhattan's renowned Rockefeller Center. Twelve buildings that form the core of the Center have an amazing 45% of their leases expiring in 1994. In the mid-1980s this impending flood of expirations was considered bullish. The average rent on the leases running out was about $42 per square foot and the Rockefeller Group, then controlled by the Rockefeller family, forecast re-leasing in 1994 at an average of $75 per square foot. In your dreams. Asking rents in the Center's midtown Manhattan neighborhood are no better than $39, and Mitsubishi Estate's Excedrin concern has to be whether it can keep tenants at anything close to that rate.

So what value would an appraiser, asked to rely on "reasonable and supportable assumptions," put on this property? It happens there's an answer because Rockefeller Center Properties, the real estate investment trust that holds a $1.3 billion mortgage on the buildings, obtains an annual appraisal. According to James Felt Realty, a New York appraiser, the fair value of the property at year-end 1991 was $1.6 billion, which is down 6% from a year earlier. Were a bank examiner assessing that dainty reduction, he might be skeptical. In any case, among those real estate folk looking smart today are the Rockefellers, for selling 80% of their family company—and a like piece of this rental problem—to Mitsubishi Estate a few years ago for $1.4 billion.

As all this suggests, the range of assumptions that an appraiser or a bank examiner could make about any given building that does not have its tenants absolutely locked up is almost limitless on the downside. Says Craig Hatkoff, managing partner of Victor Capital Group, a real estate firm that advises both banks and borrowers: "In today's market the problem is that 'reasonable' valuations made by a pessimist can be 40% to 50% below equally 'reasonable' valuations made by an optimist. And that's a range that is jeopardizing the capital of the banking system."

The regulators in Washington know that, and they have been backing and filling about how to handle the problem. One faction wants the banks' loan values to be hammered down to reality, whatever an examiner decides that is, and the other faction wants forbearance. Not that anyone

even whispers that word. Since the savings and loans drowned in forbearance, it has become, says a Congressman, "the dreaded F word."

The hawks in the government on this issue are the General Accounting Office and the Securities and Exchange Commission. They want truth in accounting, even if that reveals the capital of some banks to be unacceptably low. Said Comptroller General Charles Bowsher of the GAO to Congress in January: "We strongly believe that accounting needs to report the facts."

Since the S&Ls drowned in forbearance, it has become "the dreaded F word."

The doves are the Treasury, the Federal Reserve, and the main bank regulator, the Comptroller of the Currency. They seem to think that a little fuzziness about the capital position of the banks is in the public interest. In the name of the credit crunch, they have also been bent on encouraging banks to make an occasional real estate loan now and then, though that is close to a futile effort.

The campaign of the doves culminated at the end of 1991 with two flybys put on for the examiners' benefit. First, in November, came an interagency memo that enjoined examiners who are evaluating loans to ignore "worst-case scenarios that are unlikely to occur" and to envision the market's return to normal conditions. Then came a December conference of senior examiners in Baltimore, at which they were urged in golfing lingo to play it down the middle of the fairway and stay out of the roughs and hazards. Presumably this meant that they should not use discount rates high enough to destroy the value of loans and therefore the banks' capital.

So how did the examiners respond? Christopher Mahoney, a senior bank analyst at Moody's Investors Service, says he cannot see that the examiners have so far paid the doves much attention. He points to the examination late last year of Wells Fargo, which has an overabundance of real estate loans and above-average exposure to California's sagging economy. In the vernacular, this examination was "targeted" strictly at real estate loans, and it was immediately followed by the company's announcement that it would add $700 million to its reserves, which raised these to $1.64 billion at year-end.

Says Mahoney of that shocker: "I thought that with all of this pressure coming out of the Treasury and the White House, we wouldn't see any more cases of the regulators moving in and saying your valuation methods are out of line. But that's what I think we saw here. If there were going to be true forbearance, then you might have got a signal from seeing Wells Fargo sail through. The fact that it didn't tells me as an analyst that other institutions are still at risk of the same thing happening."

That's why the possibility of a speedup in bank mergers, and even bank failures, exists. In the meantime, many lenders have buckled down to serious cost cutting, which they hope will pump up their profits and capital. Last summer the Federal Reserve published some statistics on the profitability in 1990 of what it calls "real estate banks," defined as institutions having at least one-eighth of their assets in commercial real estate. About 25% of the nation's more than 12,000 banks fit the definition that year. The other 75%, no great earners themselves, had domestic profits amounting to 0.53% of their assets. Profits for the real estate crowd, which the Fed says included banks of all sizes, were only 0.28% of assets. For these laggards, the difference meant around $2 billion in lost earnings.

Once burned, twice shy. Credit expansion grew more slowly last year than at any time since World War II. The New York Fed's Edward Frydl concludes that the contraction was partly due to lack of demand. But he also believes that the banks' real estate burdens increased their caution about lending not only to that sector but to other would-be borrowers as well. Berkeley's Kenneth Rosen, who is a consultant to banks, says there is no doubt about this spillover effect. "The capital of many banks has been eroded," he says, "and so they're tight with all kinds of lending, not just real estate. I think that will continue for at least a year."

The banks' real estate loans have increased their caution about lending to all borrowers.

In *their* lending, the life insurance companies are similarly cautious. But their risks of loss arise from different circumstances. Typically, banks make construction loans and thus depend for repayment on a plethora of new buildings filling up. They also sometimes lent more than 100% of construction costs. Conversely, the typical loan for an insurer has been a mortgage on a fully leased building against whose value it may have lent 75%. In their loans, therefore, the insurers have been relatively conservative.

Many of their mortgages, though, are on buildings facing a large number of lease renewals, and so the insurers are slated to be unwilling participants in the rollover derby. In the 1980s, moreover, some insurers greatly shortened the maturity of their mortgages because they were using these to "match" guaranteed investment contracts (GICs)—in effect, large deposits—made by corporations placing 401(k) money belonging to their employees. That is, the insurers were offsetting the superior rates they were paying on GICs with the superior rates obtainable on the mortgages and fixing the maturity of each instrument at five to seven years. Many of these "bullet" mortgages are coming due from 1992 to 1994—and a significant number won't be paid.

MEANWHILE, corporations will be pulling their GIC business from any insurer they think overly exposed to real estate problems. So insurers heavy in both GICs and real estate, such as Aetna Life & Casualty, face a liquidity problem as these portfolios mature. Aetna knows it and has been girding itself by socking available cash into highly liquid securities, such as Treasury bills. It has also been in negotiations to sell its American Re-Insurance Co. subsidiary to Kohlberg Kravis Roberts for about $1.4 billion, which would create a lake of liquidity for Aetna.

Chester Murray, a senior insurance analyst at Moody's, says insurers are way behind the banks in their accounting valuations of real estate loans, in part perhaps because they lack a federal regulator comparable to the Comptroller of the Currency. But regulatory pressure for change is building. In the wake of the big failures at Mutual Benefit Life and Executive Life, Congress is considering federal regulation of the industry. The National Association

NEVER BORROW ANYTHING SMALL

There's an old saw in banking: If you default on a $200,000 loan, you've got a problem; default on $200 million, and the bank has the problem. That is how Olympia & York Developments Ltd., the big Canadian real estate company, viewed reality when it met its 91 lenders on April 13 to begin negotiating a restructuring of about $9.4 billion in bank debt (out of a total debt of over $12 billion). As discussions continued in the following days, O&Y prepared to file for Chapter 11 bankruptcy in the U.S. The banks must have felt a gun at their heads: They didn't want to take the huge loan write-offs bankruptcy would bring.

That they would cave in was the gamble that Paul Reichmann, 61—who, with his brothers Albert, 63, and Ralph, 58, owns O&Y—was taking. At stake was a skyscraper empire of 47.4 million square feet that includes New York City's World Financial Center, Toronto's First Canadian Place and Scotia Plaza, and London's Canary Wharf. Given the depressed state of the commercial real estate market in the U.S., Canada, and Great Britain, however, at most only about 37.4 million square feet of that space was producing rental income for the Reichmanns. When the lenders met with O&Y for the showdown in Toronto, the notoriously secretive developers produced financial data on their properties that was over a year old and incomplete. Even more galling to the bankers was the Reichmanns' ultimatum: Accept our plans for restructuring the debt, leave us in charge, waive virtually all principal and interest payments due in the next 90 days, and keep lending us millions more to pay bills during that time—or else.

Bold stuff for an outfit that had already missed several loan payments. After the meeting, Robert S. Miller, an investment banker with James Wolfensohn & Co., which has been hired to represent O&Y in the negotiations, put the threat directly: "If there were a massive refusal by the banking groups to do as the company suggests, O&Y would have to go through a series of filings [for bankruptcy protection] in several countries."

The two men advising the Reichmanns have plenty of experience in this game of chicken—and it did work last time. Miller, 51, and Gerald Greenwald, 56, are former vice chairmen of Chrysler Corp., where they were senior financial executives. As a result, both are accustomed to dealing with lenders in a crisis. A decade ago Greenwald helped Lee Iacocca negotiate the terms of the U.S. government's bailout of Chrysler, and his first day at work as new president of O&Y coincided with the big meeting with the bankers. Says he: "In one way or another it seems I've lived my life this way. But I've never been in a restructuring as big as this."

He never would have been, either, except for Paul Reichmann's determination to deal with the banks as if he still held all the cards. Initially, Reichmann hired Thomas S. Johnson, 51, former president of Manufacturers Hanover bank, to be president of O&Y and to handle the negotiations. But when Johnson, who is highly regarded in banking, finally got on the inside and understood O&Y's situation, he pushed to sell assets quickly. Reichmann, the family's chief strategist, disagreed, and Johnson was out after 20 days on the job. Now O&Y executives are telling reporters that the two men fell out over money, and that Johnson was demanding his seven-figure salary be guaranteed. Johnson refused a request for an interview.

Until recently there was no reason to question Paul Reichmann's confidence in himself. So impeccable was his word that he could close a deal on a handshake, and the world's most sophisticated bankers lined up to lend him money despite his refusal to open O&Y's books to them. The family's secrecy engendered rumors that they were worth billions upon billions, a notion vigorously fanned by various O&Y executives. Occasionally the family would spend as if they really had

JIM WATSON, FINANCIAL POST/GAMMA-LIAISON

The four horsemen of O&Y's apocalypse before the lenders' meeting: Paul Reichmann (left), Albert Reichmann, Robert Miller, and Gerald Greenwald

all that loot. The Canadian news magazine *Maclean's* described a wedding reception for 1,000 guests. At each table there was a bouquet of white roses carefully forced so that during the party they would burst into bloom.

The engine of O&Y's growth is Paul Reichmann's canny risk taking. In 1974 the brothers finished building First Canadian Place in downtown Toronto, which, as with so many Reichmann projects, was financed for more than the cost to build. That gave them some of the capital for the deal that put them on the map: the purchase of eight Manhattan office towers for $320 million in 1977 as New York City was struggling with a calamitous fiscal crisis. The Reichmanns refinanced those buildings in the mid-1980s for $1.5 billion, giving them cash for other deals.

Then in 1981, during the worst recession since the Depression, Paul Reichmann started building the World Financial Center in downtown Manhattan. Against all odds, that handsome granite, marble, and glass development was successful too. Or so it appeared. Though the towers are 91% leased, their 1992 cash flow to the Reichmanns is only $26.3 million, which is projected to rise gradually to $50.5 million by 2002—not much of a return on equity of $525 million. Undaunted, O&Y began work on the first phase of Canary Wharf, the $6.6 billion development in the London docklands, without even bothering to line up construction financing. That's when the worldwide real estate recession, combined with a sharp decline in the value of the family's holdings of natural resource companies, began doing the Reichmanns in.

Now the bankers who rushed to lend are mighty unhappy with the way Paul Reichmann is treating them in the restructuring. Says Alain Tuchmaier, a bank analyst at McLean McCarthy, a Toronto brokerage firm: "The view taken by at least some of the banks was that the O&Y position was unacceptable in its current form." Two years ago Paul Reichmann was asked what would happen if Canary Wharf became a financial disaster. "It would be very unpleasant," he said. As it turns out, his biggest gambles have been unpleasant indeed—for the banks. **– Adam Corelli**

of Insurance Commissioners has imposed a new requirement that all insurers, including the mutuals, be audited and is belatedly writing rules that will make reserves for real estate loans obligatory. And the SEC is investigating the accounting of certain publicly owned, but for the most part unidentified, insurers.

The commission isn't saying much publicly about that project, but it is believed to be on the warpath against the accounting magic that produces a year of good earnings, then a year of big reserve hits, then once again a period of good earnings. The SEC's point of view is that companies should be setting up reserves for real estate loans when these are perceived to be needed and not in huge gobs at carefully selected times that suit the company's convenience.

TRAVELERS INSURANCE has said it is a target of the SEC's inquiry. As they did at Equitable Life two years ago, real estate and GIC problems have sent Travelers in search of a capital infusion or a merger partner. The company's main error in real estate was a binge on Southwest loans and properties some years back. It began confessing its sins with a $415 million provision for reserves in 1988, then came back with another $650 million in 1990. In 1991, by then under the SEC's thumb, it booked reserves of $102 million. The company's profits for the year were $318 million.

The fear that Travelers and any other weakened insurer surely has is that it will meet the fate of Mutual Benefit. That company, once known as the Tiffany of insurers, dropped in class in the late 1980s, when it overdosed on real estate loans and investments. After word spread last summer that the company was in trouble, policyholders flocked to surrender their policies and get their money out. To stop this run, the state of New Jersey seized the company and put a moratorium on further withdrawals. Out went the old management and in came a turnaround artist, Victor Palmieri, known for his work at Penn Central and Baldwin-United. Mutual Benefit is today paying death and disability claims, plus certain annuities. Otherwise, the policyholders who didn't make their escape in time are, at least for now, imprisoned in the company.

Palmieri sometimes sounds as if he were also jailed. He says that dealing with Mutual Benefit's more than $5 billion in real estate assets is extraordinarily difficult, given the state of the market. His doleful summary: "It's impossible to liquidate and it's awfully tough finding a suitor."

Prominent among the countless other insurance and bank executives who face similar troubles is Citibank's Robert McCormack, newly in charge of U.S. real estate and most recently in charge of extracting dollars from LDC debtors. He reports directly to Chairman John Reed, which shows just where real estate ranks in Citi's list of things to agonize over. McCormack hardly exudes optimism about his portfolio. The liquidity problems, he says, are great. But he is cheered by having mostly new structures to worry about. "Over time," he says, "the real problems are going to be with the older buildings." These often require expensive retrofitting if they are to attract tenants, and they cannot easily accommodate today's computer and communications wiring. Without question, they are the prime candidates for demolition in the years ahead.

As for McCormack's liquidity problem, it will not be demolished soon. The universe of would-be buyers is small and inhabited mostly by what Victor Capital's Hatkoff calls "grave dancers, bottom fishers, and vultures." Many owners long for bids from pension funds. But the funds have also been bushwhacked by real estate and are largely sitting on the sidelines.

Arthur Mirante, president of real estate firm Cushman & Wakefield, explains why the market lacks liquidity: "For you to sell me a building, we've got to have some agreement on where the market is going to be three, four, five years from now. Lacking that, most of the deals are going to be forced sales made by owners with financial problems. In that kind of market, the buyers have no reason to move up their bids."

How long, how long, will it take for this burden to be lifted? If regulators push for write-downs, financial institutions will feel the concussions, as in a mine field, by way of bankruptcies, bailouts, and mergers. If regulators exercise the F word, the lenders will be drained slowly and insidiously as they have been by the LDC debt. Ultimately, this problem that arose from a long period of dementia will fade. Chase's Boyle promises that will be so: "In our lifetime," he said recently to a small group of discussants, "the market will turn and go the other way." Too bad if that suggests the timetable in his mind. The oldest person there was 62 and has a life expectancy of 21 more years. F

MORE POWER TO J.D. POWER

Meet the man behind the auto industry's most important customer surveys. He made carmakers focus on quality, and now he is turning to airlines and office equipment. ■ *by Alex Taylor III*

TO THE LIST of such automotive pioneers as Henry Ford, father of the moving assembly line, Charles Kettering, inventor of the self-starter, and Harold Sperlich, developer of the minivan, add J. David Power III, popularizer of customer satisfaction.

You don't think Power belongs in the same league with these guys? Consider this: Since Power published his first Customer Satisfaction Index (CSI) in 1981, keeping customers happy has become a major goal not only for automakers and dealers but also for a good-size chunk of U.S. business. He has helped make "customer satisfaction" part of the language. A search of Nexis, the publications and wire service database, shows nearly 10,000 references to the term since Power's first study appeared.

In autodom, scoring high in the Power rankings has become a preoccupation, celebrated in national advertising and rewarded with higher profits. For four years Honda's Acura dealers festooned the windows of the Integra and Legend with decals reading "J.D. Power & Associates No. 1 Customer Satisfaction Index"—and stood back to watch sales accelerate. Nissan declares that customer satisfaction "is at the heart of everything we do." When it launched its luxury Infiniti division, it made customer satisfaction an explicit aim—above sales, profits, and market share. That Infiniti succeeded in only tying for first place with another new Japanese entry, Toyota's Lexus, dampened its ardor not at all. (This year's CSI winner will be announced in June.)

Says George Borst, vice president of strategic and product planning for Toyota's U.S. sales operation: "Power discovered a niche in the industry many years ago, when it wasn't the top-line issue that it is today, and quantified it. Whether he caused it or caught the wave isn't important." William Pochiluk, who runs the Autofacts consulting firm in West Chester, Pennsylvania, is even more emphatic. Says he: "I think Power has changed the auto business forever. There was a time when he was the only guy in the business making these kinds of pronouncements, and he grabbed the attention of consumers."

Now there are all of 12 Power studies that measure the performance of automakers and their dealers. (The top finishers in five of the most important rankings are shown in the tables.) Last year Power launched the first Canadian CSI. This fall his name should appear on the first Japanese CSI rating luxury cars, produced as part of a joint venture with Japan's Research & Development Inc. Negotiations are under way to set up similar ventures in Europe and Australia. An attempt to establish a European

At 60, Power (center) still travels 80% of the time, though he is delegating more to top associates.

REPORTER ASSOCIATE *Temma Ehrenfeld*

PHOTOGRAPHS BY PHILIP SALTONSTALL

beachhead in Britain failed in the late 1980s, so Power is now aiming to set up operations on the Continent.

Expansion has helped fuel a rapid increase in J.D. Power & Associates' revenues, which are expected to reach $22.5 million this year. That's up 25% from $18 million in 1991 and triple the $7.5 million booked in 1987. One-third of revenues come from industrywide studies like the CSI. Power charges on a sliding scale: Small customers such as Alfa Romeo or Saab may pay as little as $10,000; giant General Motors might put up $100,000. That money buys thick books of data, breaking down the results of the survey model by model across the entire industry. Winners also get the right—for an added fee—to advertise the results.

Another third of Power's revenues come from single-client research, the results of which are secret. Typical recent topics have included salesperson and dealership performance. Power also forecasts auto sales and production by make, model, and plant, as well as manufacturers' plans for new models. All the research supports a growing management consulting business. In addition, Power does extensive training for manufacturers and dealers in, for instance, the fine points of satisfying customers.

Fast growth is changing the character of the 200-person firm, which has its headquarters on a single cramped floor in a nondescript, low-rise office building in suburban Los Angeles. Power, who filled job openings with friends and friends of friends until five years ago, recruited MBAs on campus for the first time this spring. In the past six months, to supplement the home-grown talent, two professional consultants have joined the firm, one from Booz Allen & Hamilton, the other from McKinsey & Co. Power is even creating a new strategic plan to chart the firm's course through 1995.

Scarcely a week goes by without someone showing up with a checkbook to see if the company is for sale. It isn't, but Power says he might consider an offer if it were lavish enough. What the business is worth isn't clear, but Power values the databases his surveys have created at up to $30 million. The books are kept conservatively. Rather than syndicate his industrywide studies by getting the participants to pay for them up front, Power bears all the costs himself. Research expenses are not capitalized but accounted for within two years, though the survey methodology and framework have lasting value and even the old data can be reused to show historical trends. Profits are reinvested in the business. That keeps reported margins low, around 5%, and minimizes taxes.

Says an investment banker who has studied the firm (and prefers not to be identified): "This is a brilliantly conceived company with a very interesting niche. What they do is high quality and should yield 20% pretax. The potential is vast. But they need to manage two transitions: to get their arms even further around the auto business in ways they haven't done before, and to move on to customer satisfaction in a variety of industries, not just one."

THOUGH HE is delegating more management tasks these days, Power, 60, remains his own best salesman and consultant. Known to friends as Dave, he's unpretentious and low key. Some see a striking resemblance to the late actor Peter Sellers. Power travels 80% of the time, visiting Detroit once a month, Japan every two months, and Europe three times a year. A recent stretch of nine days in the office left him with a mild case of cabin fever and a desire to hit the road again.

Power, a Wharton MBA, worked for Ford as a financial analyst and then as a consultant to GM's Buick and GMC divisions before he started his company in 1968 to do market research. Toyota was his first client, but he quickly branched out; today no single company accounts for more than 5% of his business. In conversation, Power sounds more like a reformer or a philosopher than a businessman. Says he: "The big kick I get is making an impact and changing the way that people see things. It's a process, not a goal, and the horizon keeps growing."

Because Power is the most respected and best-known arbiter of consumer-related automotive issues, his studies are occasionally sources of controversy. Some arise from misunderstanding: The CSI and Sales Satisfaction Index are primarily measures of dealer performance; the other three major ones rank vehicle quality. A typical Power study includes 40 makes of cars, but Power publishes only the rankings of the brands that score above average. Those that finish below average he lists alphabetically in the results that are released to the public. Since Power sells his results to literally every manufacturer, he tries to minimize the irritation.

When disputes arise, Power takes pains to mediate them. In the mid-1980s, he opened his studies to three statisticians from graduate business schools for an independent vetting. "That stopped the complaints about our methodology," says senior partner J. Ferron. In the late 1980s, Ford complained

THE TEN TOP MAKES BY FIVE DIFFERENT J.D.

1991 SALES SATISFACTION STUDY

How new-car buyers rate sales, delivery, and vehicle condition
After 90 days of ownership

	Index[1]
Lexus	146
Cadillac	140
Infiniti	138
Lincoln	136
Mercedes-Benz	132
Saturn	131
Buick	131
Oldsmobile	127
Mercury	123
Jaguar	120
INDUSTRY AVERAGE	110

1991 INITIAL QUALITY STUDY

Owner-reported problems per 100 cars
After 90 days

Lexus	55
Infiniti	89
Toyota	90
Mercedes-Benz	99
Acura	109
Honda	111
Subaru	126
Ford	127
Lincoln	131
Mazda	134
Buick	134
Oldsmobile	134
INDUSTRY AVERAGE	140

1991 CUSTOMER SATISFACTION STUDY

How owners rate product quality and dealer service
After 12 to 14 months

	Index
Infiniti	170
Lexus	170
Mercedes-Benz	147
Acura	146
Honda	146
Toyota	144
Audi	140
Cadillac	139
Buick	137
BMW	132
INDUSTRY AVERAGE	127

[1]Industry average was set at 100 the first year each study was conducted. [2]Tie.

After analyst Chris Cedergren (right) quit, Power sued him and George Peterson's AutoPacific for allegedly stealing trade secrets.

about the sample size and the response rates of Power's Initial Quality Study, which, unlike the automaker's own research, ranked Ford beneath its domestic competitors. That proved embarrassing, because Ford advertised itself as America's highest-quality car manufacturer. Ford and Power discussed their separate methods of data collection and interpretation, and both say the dispute has largely been resolved. Ford's quality rating has kept improving, and it now outranks General Motors and Chrysler in the Initial Quality Study.

Placing first in a Power ranking isn't merely good for the ego. As Buick discovered, you can take it to the bank. On May 5, 1989, Power announced that the Buick LeSabre had leapt from 44th to second place in the Initial Quality Study (behind the Nissan Maxima), ranking it the U.S. car with the fewest reported problems. Buick immediately began advertising that fact, and LeSabre sales took off with a whoosh. After increasing 5.7% in April over the previous year and 9.3% in May, they exploded, rising 32% in June, 91% in July, and 99% in August.

Buick's example brought a crush of automakers to Power's door eager to use a Power ranking in their advertising. Power charges clients a $10,000 license fee to do that. In addition, they pay up to $2,500 for approval of each new piece of advertising copy and up to $3,750 for each TV commercial script. Wide use of the Power imprimatur, however, quickly threatened to diminish its value. Chevrolet, for instance, advertised its Lumina as the Power-certified most-trouble-free two-door car in the midsize segment. That was faint praise indeed, since every car answering that description, including the Lumina, had more problems than the average for all automobiles.

The Lumina episode crystallized a growing belief inside and outside the company that a Gresham's law affecting Power rankings was at work. Says Toyota's Borst: "We were the first ones to really use Power rankings in our advertising, beginning in 1987, but after a couple of years it got to be very confusing. Other manufacturers' cars were being advertised that were quite far down the quality list." The year after the Lumina episode, Power put his foot down. As of 1991, the Power name may normally be associated only with the top make in four categories: best American, Asian, and European brands, and best overall. Lexus now occupies first place in three of the studies, which cuts down the opportunities for endorsements anyway.

Power conducts his surveys by mail with lists of registered owners that he buys from a Detroit vendor, R.L. Polk. A typical questionnaire to 70,000 car owners consists of six to eight pages, contains up to 90 questions, and takes 30 to 40 minutes to complete. A dollar bill is often enclosed as an incentive. Power needs about 150 completed questionnaires per model to get statistically valid results. His response rate is phenomenally high for surveys of this kind: It averages 38% and sometimes hits 50%. Power attributes those results to his name recognition and the seriousness Americans bring to buying a car. Least likely to reply are the owners of luxury and sports cars. Presumably the former can't be bothered and the latter are having too much fun.

When the questionnaires come back, a team of 100 to 150 part-time workers processes them. Power uses a two-step procedure to develop the results. The first, called factor analysis, identifies the issues consumers are most concerned about. In the three-year Vehicle Performance Index, for example, they are reliable operation, interior comfort and appearance, interior space, and clear instruments and handy controls. Regression analysis determines how much weight each gets. In the case of the VPI, reliability led with 54%.

JUST AS College Board exams gave birth to cram schools, Power studies have sired consultants who specialize in helping dealers raise CSI scores. Manufacturers and dealers sometimes use devious methods to improve their rankings. One carmaker surveyed 60,000 of its owners a few weeks before the CSI study went out in an apparent attempt to influence the responses; Power says the effect was negligible. Occasional evidence of outright fraud turns up. Individual dealers have tried to stuff the Power ballot box by copying questionnaires and mailing in extra ones. Power catches the cheaters with an electronic scanner and by cross-checking names of responders against a mailing list.

With Power's success, more competitors are trying to slice off chunks of his business. Among the most aggressive is AutoPacific Group, in Santa Ana, California,

POWER MEASURES

1992 VEHICLE PERFORMANCE STUDY

Satisfaction with 81 aspects of performance
After 3 years

	Index
Acura[2]	152
Daihatsu[2,3]	152
Honda	140
Toyota	131
Cadillac	129
Mercedes-Benz	126
BMW	125
Mazda	120
Nissan	116
Buick[2]	114
Lincoln[2]	114
INDUSTRY AVERAGE	110

1992 VEHICLE DEPENDABILITY STUDY

Satisfaction as measured by incidence and severity of problems
After 4 to 5 years

	Index
Mercedes-Benz	176
Honda	157
Acura	150
Lincoln	137
Porsche	127
Toyota	125
Cadillac	121
Nissan	118
BMW	117
Mazda	111
INDUSTRY AVERAGE	101

[3]Company sells only one car model in the U.S.; it is no longer being imported.

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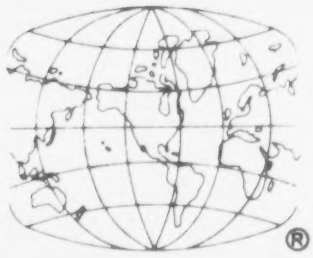

American Intercultural Student Exchange

A non-profit tax exempt organization

founded by former Power analyst George Peterson. Last year Peterson hired Power's well-known forecaster Chris Cedergren and another Power associate to work out estimates of new-vehicle sales and production volume. Power subsequently sued AutoPacific and the two former employees for stealing trade secrets, saying they had taken 14,000 pages and 49 computer disks of confidential information. Peterson says the material wasn't used in creating AutoPacific's own reports and has all been returned to Power. Attempts to settle the suit have failed, and it is headed for trial.

With the market for consumer auto research seemingly approaching saturation, Power is looking for growth in other areas. Besides strengthening his consulting business, he wants to extend industrywide customer satisfaction reports to such products and services as airlines, heavy-duty trucks, recreational vehicles, and office machines. A CSI for personal computers and related products launched last year is being repeated and expanded.

POWER HAS YET to confront the two most important decisions a company founder must make: providing for transitions in the firm's ownership and in its leadership. There are ten partners, two of them newly anointed "senior partners," though Power remains the majority shareholder. Power's son, J. D. "Jamey" Power IV, 29, joined the family firm nearly two years ago after stints at Chevrolet and an advertising agency for Mazda. Poised and articulate, he works a few doors away from his father as marketing manager of automotive research.

Power himself retains enormous zest for his job. Ever the reformer, he has lately applied his survey research talent to developing a customer satisfaction rating for America, called the CSA. After polling 4,650 people, more than enough for a valid national survey, he found, among other things, that Americans are most satisfied with the service they get from supermarkets, emergency rooms, and their telephone companies. In the bottom ten: government, public transportation, car and health insurance, and, yes, car dealers. So far Power hasn't marketed the CSA, but he is already making plans for similar studies in Europe (CSE) and Japan (CSJ). Perhaps someday government officials on three continents may have to answer to constituents about their Power ranking—just as automakers do now. F

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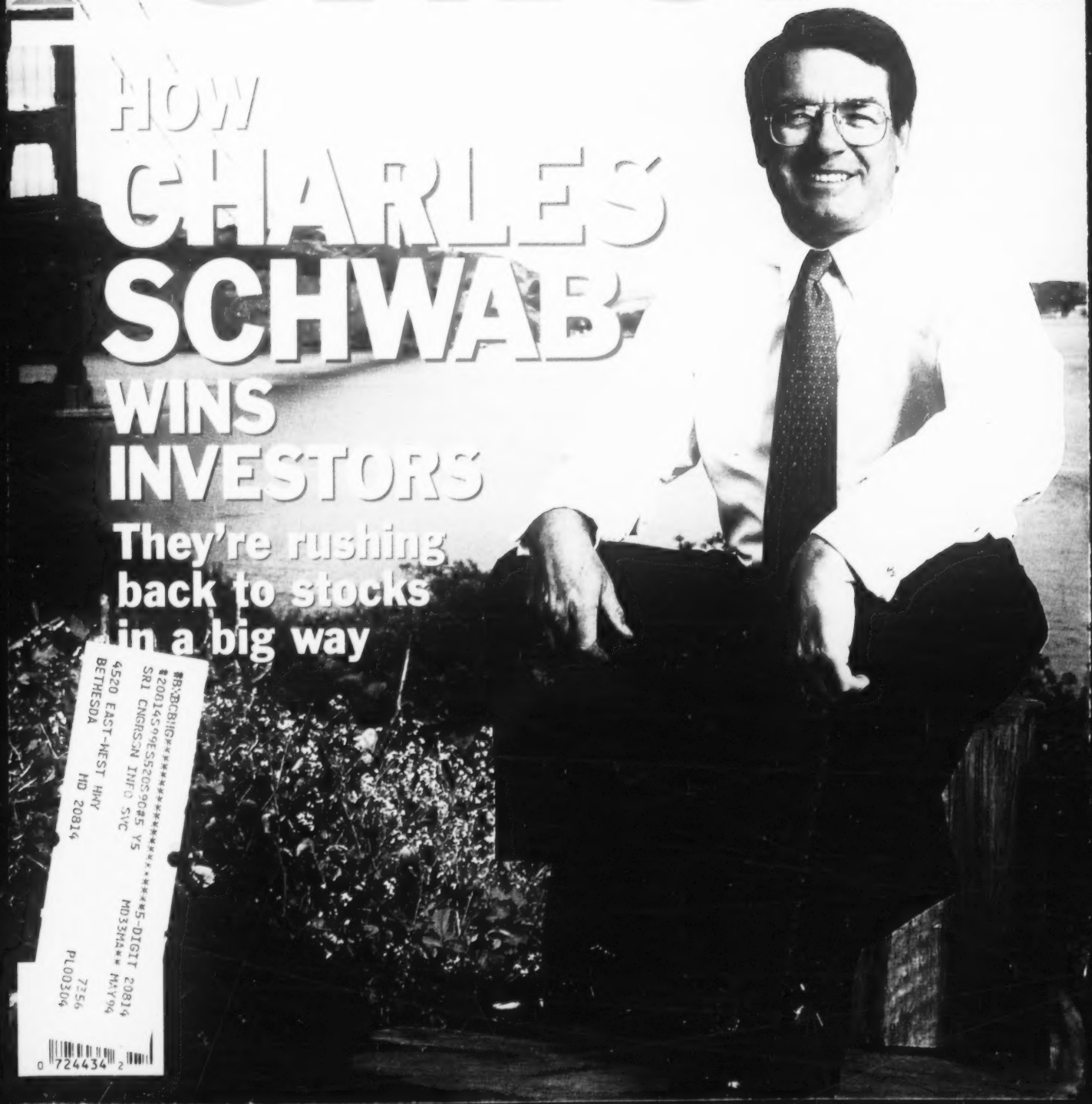

HOW CHARLES SCHWAB WINS INVESTORS

They're rushing back to stocks in a big way

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JUNE 1, 1992 VOL. 125, NO. 11

FORTUNE

"When you think of discounters, you think of Schwab." 52

INVESTING/COVER STORY

HOW CHARLES SCHWAB WINS INVESTORS 52

Individuals are coming back to stocks. With low prices, lots of service, and heavy promotion, Schwab has become their favorite discounter. Also: a guide to brokers. *by Terence P. Paré*

POLITICS & POLICY

DO AMERICANS PAY ENOUGH TAXES? 67

Not judging by the usual international comparison. But U.S. taxpayers certainly don't feel like giving government more. *by Joseph Spiers*

MANAGING

IS THIS LAYOFF NECESSARY? 71

No, and it may even reveal stupid management. That's the view at recession-hit companies that have found scads of ways to avoid taking the fateful step. *by Edmund Faltermayer*

THE ECONOMY

WHAT GAINS FOR RECESSION'S PAIN? 89

By sobering businesses and consumers, it has set the stage for lasting growth. Debt is ebbing, inflation will stay cool, and companies are digging harder for efficiencies. *by Louis S. Richman*

CORPORATE PERFORMANCE

AIRBUS TAKES OFF 102

The flight was plenty bumpy, but Europe's planemaker has reached the status of a serious threat to U.S. giants Boeing and McDonnell Douglas by offering cutting-edge technology. *by Kenneth Labich*

THE SOCIETY

WHAT WE CAN DO NOW 40

America's top CEOs maintain that integrating the urban underclass into the national economy isn't just right—it's essential to everyone's prosperity. Here's what needs to be done, and how business can help. *by Richard I. Kirkland Jr.*

HOW TO MAKE WELFARE WORK 43

Sociologist Christopher Jencks says repairing the damage will take both an improved safety net and more self-reliance among the poor.

ABOVE: Charles Schwab on the customer floor at his San Francisco offices, photographed by Doug Menuez —Reportage.

COVER: George Lange's camera found the king of discounting near the Golden Gate Bridge.

"For the first time, women were allowed to see inside the corridors of power, and they didn't like what they saw." 12

"Economic woes and social woes are inextricably linked. We cannot solve one without addressing the other." 40

"The quality of work from motivated people is light-years ahead of what you get from people not well motivated." 71

"In this business, it is a kind of separate world, a kind of international fraternity. We have invented our own system." 102

"The door is always open, and people are always stopping by. It's important that everybody has access." 135

"I know the pressure of being a high-profile female executive. I wish it didn't matter, but it does." 148

CORPORATE PERFORMANCE

STAYING AHEAD OF 800 COMPETITORS 111
Electrifying little-known AMP. *by Andrew Erdman*

REVOLUTION FROM WITHIN 112
An insider rescues his utility. *by Stephanie Losee*

COMPANIES TO WATCH 115

MONEY & MARKETS

THE BATTLE OF THE BEAN COUNTERS 117
The big debate over accounting practices: Advocates of change want to avoid a new S&L mess; critics, a new credit crunch. *by Ford S. Worthy*

TECHNOLOGY

TECHNOLOGY TO WATCH 131

EXECUTIVE LIFE

THE CEO'S SECRET OF MANAGING TIME 135
It doesn't look efficient, but smart executives stay on top by being interrupted. *by Alan Deutschman*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12
Women candidates in record numbers, whether Germany has lost its business edge, using your PC to find a job, interactive TV, and more.

FORTUNE FORECAST 17
Wages begin to inch up. *by Joseph Spiers*

PERSONAL INVESTING 23
The Solomon of stocks finds a better way to pick them—by discarding beta. *by Terence P. Paré*

Also: Betting on China's boom, new vroom in toy stocks, and Portfolio Talk with Larry Keblusek of Northern Investment Counselors in Chicago.

LETTERS TO FORTUNE 34

FORTUNE PEOPLE 148
Rukeyser vs. Rukeyser, Nick Buoniconti's true goal, and more. *by Laurie Kretchmar*

KEEPING UP *by Daniel Seligman* 163

THE SERVICE 500

■ **NOTHING TO WRITE HOME ABOUT** 168
What kind of year was it for the FORTUNE Service 500? Not so hot. Among the stars: retailers and—are you ready for this?—life insurers. *by Mark Fefer and Sally Solo*

■ **THE SERVICE 500 LISTINGS** 174
The largest service companies in the U.S.

■ **THE 500 RANKED BY PERFORMANCE** 201
The top 50 companies rated by 12 measures.

■ **THE 500 RANKED WITHIN STATES** 214
Headquarters plus CEO and phone number.

■ **ALPHABETICAL INDEX** 238

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EDITOR'S DESK

STARS OF THE SERVICE 500

Service team: lists editor Haight (center), reporters Solo and Fefer

JUST ABOUT EVERYBODY knows about Charles Schwab, king of the discounters, but did you know that the lucky investors who bought stock in Charles Schwab Corp. enjoyed an awesome return last year—304% from price appreciation plus dividends? In our cover story, writer Terence Paré reveals some of the success secrets of the nation's hottest discount brokerage.

Paré spent two months digging into Schwab's financials and interviewing sources in the business. Reporters Joshua Mendes and Patty de Llosa put together the detailed table "Sizing Up the Brokers," which compares prices and services at 15 brokerage houses. Schwab's formula? Says Paré: "What Schwab has done is essentially to take a commodity business and give it a brand name. In a price-conscious industry the company competes on service, not just on price."

Writer Terence Paré

Schwab is one of the superstars on FORTUNE's list of the nation's 500 biggest service companies. This year's Service 500 is not only bigger but also stuffed with new user-friendly features. As in the FORTUNE 500 list of industrial companies, we now rank the service companies within each of their states. We also have expanded the performance rankings to include the top 50 companies in 12 categories—such as best growth in earnings per share and highest market value. Lists editor Catherine Haight oversaw the project, and reporters Mark Fefer and Sally Solo gathered the data. Says Julie Connelly, who edited the text: "Some businesses that you might think were in the tank, like S&Ls and retailing, haven't done so badly. I found it pretty amazing that the six companies with the highest total return to investors over the past ten years were retailers."

In the middle of preparing this issue, events in Los Angeles compelled us to tear up the magazine. Our contribution to coverage of the tragedy: an affecting story on how business can help solve our social ills and bring the nation together. Members of our staff, notably including Los Angeles bureau chief Nancy Perry, interviewed 30 top executives and dozens of other sources for their ideas. See "What We Can Do Now," by Richard I. Kirkland, on page 40.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October, by Time Inc. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Joseph A. Ripp, Treasurer; Mary M. Johnston, Secretary. Subscriptions: U.S., possessions, and APO/FPO: $27 issues $57.95. Canada: one year (27 issues) $57.95. Canada: one year (27 issues) $68.95 (includes GST). All other countries: one year (27 issues) $83.73. Second class postage paid at New York, NY, and at additional mailing offices. Authorized as second class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 60001, Tampa, FL 33660-0001. Customer inquiries: FOR SUBSCRIPTION QUERIES, call Customer Service at 1-800-621-8000. Time Inc. GST #R122781974.
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lyst at the mutual fund company of Scudder Stevens & Clark: "Hong Kong Telecom offers the best combination of high quality and high growth that I see in any telephone company in the world." **– Shelley Neumeier**

NEW VROOM IN TOY STOCKS

■ If you rode the toy stocks' 90% rise last year, give a pat on the back to Barbie and G.I. Joe. Together with other venerable oldsters of playland, they helped push sales of traditional toys in the U.S. ahead 6%, while sales of videogames faded. The change toward more traditional—and stable—toy sales is one of the many positives powering these stocks. Says Thomas Kully, who follows the industry for William Blair & Co.: "These shares sell at below-average price/earnings multiples, even though the companies have much better managements than five years ago, significantly better balance sheets, and predictable, above-average growth in earnings. We see the stocks appreciating further."

Toy profits are easier to forecast today than in the past. As strong players have acquired the weak, diversification has added to predictability. A good example: **Tyco Toys**. When Tyco went public at $5 a share in 1986, it was the 22nd-largest U.S. toy company and essentially a seller of electric racing sets. Last year those types of products accounted for less than one-quarter of Tyco's $549 million in revenues, while the rest came from acquired lines like Ideal dolls and View-Master 3-D viewers. Says Sean McGowan, a toy analyst at Gerard Klauer Mattison: "Tyco is the fastest-growing toy company and the most attractive stock." He thinks it will earn $3 a share in 1992 and $4 in 1993.

Kidder Peabody's Gary Jacobson recommends a lesser-known name, **SLM International**. SLM went public at $10.50 per share last November, but Jacobson thinks the shares are still cheap at $22.38 because earnings should jump more than 50% to $1.45 per share this year, then expand 25% annually. Once simply a sporting-goods manufacturer, supplying the National Hockey League with jerseys, for instance, SLM is now greatly diversified.

And what of the titans of toyland, **Hasbro** and **Mattel**? Both pull in close to half their revenues from foreign markets, which generally offer better growth prospects than the U.S. Hasbro (14% owned by Time Warner, the parent of FORTUNE's publisher) is the conservative investor's choice. Though three toys—G.I. Joe, Transformers, and My Little Pony—dominated Hasbro's sales in the mid-Eighties, last year no single product provided more than 5% of its $2.1 billion in revenues. Hasbro's recent acquisition of Tonka adds Parker Brothers games, such as Monopoly and Trivial Pursuit, to its Milton Bradley business. Kully at William Blair recommends the stock, figuring that Tonka will help rev up Hasbro's earnings to $1.90 a share in 1992 and $2.15 in 1993.

Mattel is a riskier bet, largely because one toy, Barbie, brings in over 70% of profits. Sales of 33-year-old, permanently pubescent Barbie have doubled since 1984 to some $750 million in 1991 and show no signs of slowing. But management is trying to tilt the company into other categories such as boys' toys and games. Kully expects earnings, $1.81 per share in 1991, to reach $2.20 this year and $2.50 in 1993. He calls the stock a buy.

Most controversial of all the major toymakers is **Fisher-Price**. Since Quaker Oats spun off the preschool toymaker last June at $24.75 per share, it has risen to $39. While some analysts believe the rise will continue, Kidder Peabody's Jacobson thinks the shares will underperform the market. He warns, "The company faces tough competition from Rubbermaid's Little Tikes, Mattel's Disney preschool line, and Hasbro's Playskool, which were much less of a factor during Fisher-Price's heyday in the mid-Eighties." That sounds like one toy stock that may not be much fun. **– Patricia Sellers**

MAGELLAN'S NEW MASTER

■ When Fidelity Magellan manager Morris Smith said he was quitting the fund, investors grew nervous. Not to worry. Jeffrey Vinik, Smith's replacement, is up to the task. Says Fidelity legend Peter Lynch: "Jeff is a classic fundamental analyst." So it seems. Vinik's other funds have handily beaten the market. One tip on his likely Magellan style: He favors technology shares. **– Susan E. Kuhn**

Tyco sells one of the big new toys of 1992—the Incredible Crash Dummies—dolls that go flying from their accident-bound buggies.

COMPANY	REVENUE[1] in millions	INCOME[1] in millions	52-WEEK RANGE	RECENT PRICE	P/E	MAJOR PRODUCTS
HASBRO	$2,141	$122.7	$16.25–$28.25	$25.88	18	G.I. Joe, Monopoly, Scrabble, Tonka trucks, Playskool toys
MATTEL	$1,622	$112.8	$18.00–$37.50	$33.38	18	Barbie dolls, Hot Wheels
FISHER-PRICE[2]	$663	$24.4	$22.00–$40.75	$39.00	25	Infant and preschool toys such as Bubble Mower and Little People
TYCO	$549	$18.4	$17.00–$46.13	$46.13	15	Radio-controlled cars, View-Master, Little Mermaid dolls
SLM INTL.	$164	$6.3	$10.50–$24.25	$22.25	15	CCM hockey gear, Buddy L vehicles, pools, sandboxes, sleds

[1]Revenue and income are for calendar year 1991, except where noted, and excludes one-time charges.
[2]Figures are for trailing four quarters.

HOW SCHWAB WINS INVESTORS

Individuals are coming back to stocks. With low prices, lots of service, and a heavy dash of promotion, Charles Schwab & Co. has become their favorite discounter. ■ *by Terence P. Paré*

A POWERFUL NEW FORCE is invading the stock market. After a decade of hiding in bank and money market accounts, individual investors are galloping back to equities, lifting prices to new highs. Waiting to welcome them and usher them in is the boyishly handsome chairman of the nation's hottest discount brokerage. With 163 offices in 41 states and 1.7 million active customer accounts, Charles Schwab & Co. is the unquestioned king of discounting and is getting bigger every day.

According to Securities Industry Association data, Schwab accounted for 45% of all discount brokerage commissions in 1991, up more than five percentage points from 1986. And the bigger piece came from a larger pie: Discounters booked 11% of retail commissions last year, nearly half again as much as they had five years ago. About one in five retail trades now goes through a discounter.

Look familiar? Charles Schwab spends $25 million a year to make his face known to all.

PHOTOGRAPHS BY GEORGE LANGE

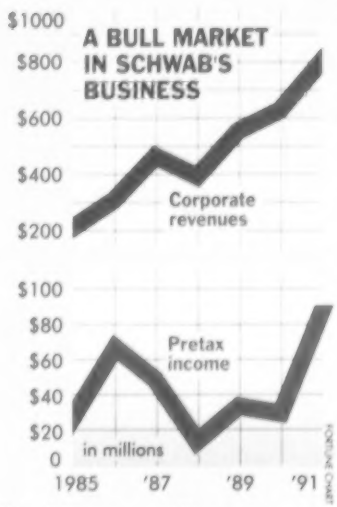
Among the FORTUNE Service 500 companies listed in this issue, Charles Schwab Corp., the holding company, had the 20th-biggest increase in sales last year (27%) and the 28th-biggest rise in profits (195%). As a discounter the company doesn't recommend stocks to customers, but if it did, it could hardly have done better than endorsing its own. Schwab shares returned 304% to investors last year, the second best of any company on the Service 500 (for the complete 500 rankings, see page 174). The chairman's personal stake: $308 million.

The way Charles Schwab, 52, built this organization speaks volumes to managers of any business. His firm isn't the biggest out there: It is dwarfed by such full-service giants as Merrill Lynch and Shearson Lehman. Nor is it the cheapest: Though it easily undercuts full-commission brokers by as much as 60%, Schwab is itself undersold by most other discounters. But Schwab has artfully combined technology, salesmanship, customer focus, and cost control to produce what the consumer of the Nineties is most looking for: superior service at low prices. Even if today's frothy stock market loses steam, Schwab's business should keep bubbling.

Discount brokerage has never been more in tune with the times. People who grew accustomed to earning 8% a year on government-insured certificates of deposit can't get half that rate today. As a result, nearly $70 billion flowed out of individual savings accounts and CDs last year, much of it head-

ing into stocks and bonds. Says Laszlo Birinyi of Birinyi Associates, a New York City stock market research company: "The individual investor is back. And he is going to stay."

The number of people entering their high-saving, high-investing years is on the rise. Americans ages 45 to 64 will climb from about 18.5% of the population now to nearly 28% by 2010. Stephen Meyer of the Federal Reserve Bank of Philadelphia figures that without any changes in tax or other government policies, the personal savings rate could increase two to 2.5 percentage points by 2010, to about 7.5%. In today's dollars, that would produce roughly $100 billion in new money available for investment.



Schwab's revenues and income are growing at over twice the industry rate.

Growing up in the shadow of the Great Depression, the pre–World War II generation tended toward conservative investments like savings bonds. Not the boomers. Says Jeffrey H. Kahn, senior executive vice president of Kemper Securities in Chicago: "People over 65 still have a very real fear of loss of principal, while 45-year-olds are very concerned about their ability to pay bills in the future." The specter of rising education costs and runaway health-care fees makes today's middle-age wage earners more than a little eager to see their money grow.

A 1990 survey of investors conducted by the New York Stock Exchange found that baby-boomers were more willing than shareholders in general to take substantial risks. The full-commission brokers that offer investment advice will have a tough time attracting this new breed of investor. Says Thomas Meade, president of Fidelity Brokerage Services: "People know far more about investments than they knew ten years ago. And when you think about the S&Ls and other financial scandals, I don't think that they are as trusting either." The New York Stock Exchange survey also revealed that baby-boomers in particular were more inclined than others to use discounters rather than full-commission firms.

No one is better prepared to capitalize on that trend than Chuck Schwab. The son of an assistant district attorney, Schwab has been taking advantage of opportunities, one way or another, since his childhood in a farm community in California's San Joaquin Valley. As a boy he picked walnuts and bagged them for $5 a 100-pound sack. He raised chickens in his backyard, sold the eggs door to door, killed and plucked fryers for market, and peddled the manure as fertilizer. Schwab calls it "my first fully integrated business."

So too has Schwab capitalized on a severe handicap he has had to contend with since childhood. If there is a soul to the vastly successful machine he has built, it is to be found in the founder's lifelong battle with dyslexia. To keep up with his classes, he had to resort to *Cliffs Notes* and *Classics Illustrated* comic books. Schwab talks about his affliction publicly, he says, as a way of helping other dyslexics gain confidence in themselves. But in a very real sense, Schwab's learning disability has proved to be the bit of painful grit that he has turned into a pearl.

Having struggled his entire life to process information, Schwab built his company to do precisely that for investors—process the information needed to make sound investment decisions. Full-commission brokers created a business for themselves by controlling information, limiting investors' choices to their firms' recommendations on securities. By contrast, Schwab likes to talk about "empowering his customers" with information from many different sources, so that investors can make up their own minds.

Armed with sufficient data, he argues, his customers have more than enough wit

REPORTER ASSOCIATES *Patty de Llosa, Joshua Mendes, and William E. Sheeline*

A CELEBRATED, AND ANIMATED, CLIENT LIST

Schwab's clients (from top) include CBS celeb Charles Kuralt and lesser knowns such as Robert McNeely, a chemistry professor at the University of Tennessee; Nancy Cartwright, the voice of Bart Simpson; and Bernard Gartenlaub, who owns a New York City maintenance business and is one of Schwab's heaviest traders.

FROM TOP: GEORGE LANGE - OUTLINE; MICHAEL SCHWARZ - SAM KITTNER/TWENTIETH CENTURY FOX ILLUSTRATION; KRISTINE LARSEN

ANDY FREEBERG

Schwab's Asia Pacific center in San Francisco can take a buy order in a number of Asian tongues.

to make decisions about their money. After all, he measures his customers' needs against his own. And he always knew that he had the gray matter necessary for success as an entrepreneur despite the stubborn refusal of the words on the page to line themselves up in his mind.

After graduation from Stanford with a degree in economics and later an MBA, Schwab embarked on his first entrepreneurial effort in investing. He joined two business associates and began putting out an investment advisory newsletter, a business that later grew to include a $20 million mutual fund. After the market tumbled in 1969, however, the state of Texas ordered Schwab to stop accepting investments through the mail from its citizens because the fund wasn't registered to do business in the state. He went to court and lost. When the dust settled, Schwab was $100,000 in debt and on his way back to court, this time for a divorce. His first marriage had collapsed under the emotional strain.

HE SOON bounced back. With $100,000 that he borrowed from a rich uncle, Schwab started a new company, First Commander, a conventional brokerage that eventually became Charles Schwab Corp., and gradually worked off his debt. In 1974, at the suggestion of a high school buddy named Hugo Quackenbush, Schwab joined a test of discount brokerage being conducted by the Securities and Exchange Commission and began cutting rates. When the SEC finally abolished mandatory fixed commissions the next year, the discount business—and Schwab—took off.

By 1983, Schwab's business needed capital for expansion. To raise funds, he sold his company, of which he then owned 32%, to BankAmerica. The price: $55 million in the bank's stock and a seat on its board of directors. This marriage didn't work out either. By 1987 the bank was reeling under loan losses, its stock was dropping, and the entrepreneurially minded Schwab found himself in a tangle of banking regulation every time he wanted to introduce a new product.

Using bank loans, a variety of debentures, $9 million of his own money, and $10 million from his management team and relatives, Schwab led a buyout that paid BankAmerica $324 million in cash and securities. Six months later he took the company public in an offering that valued the brokerage nearly $100 million over what he and his investors had paid BankAmerica. The paper value of his 7.2 million share stake was suddenly $119 million, seven times what he realized when he sold out four years earlier.

Many discounters who sprang up with Schwab had withered and blown away by the time he was independent again. But Schwab prospered by making smart moves. One was the decision, taken on the suggestion of the company's head of advertising, to make the boss the company's pitchman. Schwab didn't like the idea at first—he is surprisingly camera-shy—but the company quickly discovered that having a real name and face to focus on gave the investor an inviting sense of human contact.

With hucksterism that would make Madonna blush, the company pours buckets of money into putting Schwab's face on bill-

The Horn & Hardart of brokerage, Schwab's self-service areas let investors trade on their own.

boards, bus shelters, the back pages of the *Wall Street Journal*—just about everywhere but the side of milk cartons. Over $25 million went for promotion last year, $7 million of it on the company's first national network TV campaign. Schwab's expenditures regularly outstrip the net income of Quick & Reilly, another major discounter. Thomas Quick, the broker's president, knows what he's up against. "When you think of discounters," he concedes, "you think of Schwab." In total, Schwab spent 29% of pretax income on advertising and marketing last year, nearly twice the brokerage-business average.

"The discount label is sort of a misnomer. We're going to broaden that category."

While there have been variations over the years, the focus of Schwab's advertising has remained the man whose name is over the door. Says Perrin Long, a brokerage industry analyst at First of Michigan: "Look at Merrill Lynch's ads. One year it's 16 bulls, then six. Then a breed apart, then a new breed. Schwab is always out there, just like the old man on the Quaker Oats box."

A second smart move was investing big and early in the latest technological wizardry. In 1979, Schwab spent $2 million, an amount equivalent to the firm's entire net worth, to buy a used IBM System/360 computer, plus software, left over from CBS's 1976 election coverage. Says the boss: "It was a bet-the-company decision." By 1982 the firm's technology was well ahead of the typical Wall Street outfit's.

Schwab was first among the discounters to offer something comparable to Merrill Lynch's revolutionary Cash Management Account, introduced nationwide in 1980. These central asset accounts, as they are called generically, sweep idle cash automatically into money market funds and allow customers to draw on the money by check or debit card. Schwab's system, unveiled in 1982, went beyond Merrill's in that it allowed brokers to execute orders instantly through a computer link to the exchange floor. Schwab has run a nearly paperless office for ten years. Most full-commission firms have yet to make the conversion.

The hottest Schwab service right now is TeleBroker, which was rolled out nationwide last year. Customers can use TeleBroker to buy and sell securities, get quotes, and check their account balances through any touch-tone phone 24 hours a day. Callers are prompted through the process by a computer and never speak to a human being.

To encourage investors to go the electronic route, Schwab shaves 10% off its commissions, but it saves much more than that on its cost of doing business because computers are cheaper than people. In its first year of nationwide operation, TeleBroker answered more than 14 million customer calls. Investors let their fingers do the walking through 600,000 trades, 13% of the 4.6 million transactions the company performed in 1991.

Schwab's technology lets it collect multimegabytes of information about customers, which the firm's marketers quickly turn into dollars. Schwab tracks sales of specific types of securities on virtually a minute-by-minute basis, targeting direct-mail advertising where the research suggests it will be most effective. Suppose, for example, the system discovers that a lot of investors in Florida are rolling over CDs. The company might target that area for a mailing about other fixed-income investments.

EVER CURIOUS about its market, Schwab completed an exhaustive study of 27 million U.S. households in 1988. One finding: Many investors wanted unbiased financial advice. Schwab responded with its Financial Advisors Service, which provides investors with a list of financial planners who are willing to work solely for a fee (and who have no incentive to push particular investments on their clients). The planners, in return, allow Schwab to function as their back office, safeguarding customers' cash and securities, keeping track of accounts, sending out statements, and executing trades on which Schwab earns commissions. By the end of last year, assets held by Schwab for its 79,000 FAS clients reached $8.3 billion.

To make stock picking easier, Schwab provides summaries of current research and news on more than 5,000 companies. The reports include a company's financial history, a smattering of analysts' comments that have appeared in the news, and a tabulation of buy and sell recommendations from full commission brokerage houses. The price for the first report in each order is $9.50 ($4.75 for those thereafter), which Schwab says just about covers the cost of production. Investors, Schwab reasons, are more likely to trade if they can get information about a company they are interested in.

Perhaps the most valuable lesson that Schwab has learned came in the wake of the 1987 stock market crash. Responding to complaints that its brokers, like most others, had failed to handle the deluge of calls from frightened investors, Schwab instituted a quality program that systematically probes

The Quicks of Quick & Reilly, led by Tom (rear left) and Leslie III (right), are stalking Schwab.

customers' perceptions of the firm. The survey revealed that the Schwab image was far less friendly than management had thought. Says Elizabeth Sawi, executive vice president in charge of retail marketing: "We were seen as cold and impersonal. We were seen as transactors."

Every member of the organization from Chuck Schwab down took courses in how to be more attentive to the customer. In all, says Sawi, Schwab has changed over 800 procedures large and small. In the World Trade Center branch in New York City, for example, customer and broker used to sit on opposite sides of a Plexiglas divider, like estranged goldfish. The dividers are now gone.

Compensation for registered representatives has been transformed. Only about one in five calls to Schwab requests a trade. The rest are from people asking for information, such as when a dividend will be available. But the company had always awarded bonuses according to how many transactions its people processed. Now reps are rewarded according to the level of assets their branch maintains. That encourages the staff to listen more carefully to the customer and probe his needs.

EVERY EMPLOYEE, management included, is now expected to become licensed as a registered representative so that the company will have a reserve to call on when crunch times come. And as much as Schwab loves getting big, by 1988 the tag "America's Largest Discount Broker" was disappearing from its signs. The reason? "Being the largest is something for us to brag about," says Schwab, "but it doesn't mean very much to our customers."

To create a backup system for brokers, the company has opened two central phone centers, in Denver and Indianapolis, and has one planned for Phoenix at a cost of $4 million to $5 million apiece. Wired to branches all around the country, the centers handle calls when the lines at the branches are busy. The goal is to make sure no caller waits more than 20 seconds for a human response. Branch managers love the system because it allows them to shift calls to the phone centers during busy periods, freeing local reps to deal with customers in the front office.

Schwab is also setting up multilingual centers to handle inquiries from such ethnic groups as Asians or Hispanics. Hardly the stuff expected of a discounter? Schwab re-

SIZING UP THE BROKERS

	BROKERAGE FIRM	COMMISSIONS			FEES[2]			RESEARCH CAPABILITIES		
		500 shares at $20 per share	100 shares at $30 per share	One $10,000 Treasury bill[1]	Transaction fee	Inactive account annual fee	IRA annual fee	No. of equity analysts	No. of companies followed	No. of fixed-income analysts
NATIONAL	DEAN WITTER	$230	$84	$28	$2.35	$50	$30	49	600	4
	A.G. EDWARDS	$227	$83	$30	$2.00	None	$30	26	500	6
	MERRILL LYNCH	$238	$86	$50	$4.85	$40[4]	$65	96	1,100	25
	PAINE WEBBER	$242	$89	$35	$3.80	$50[5]	$35	40	628	18
	PRUDENTIAL	$250	$101	$40	$4.50	$50	$35	47	575	22
	SHEARSON LEHMAN	$246	$83	$60	$3.85	$50	$40	113	1,100	30
REGIONAL	ADVEST Hartford	$221	$80	$50	$2.50[3]	$20	$30	10	58	None
	PIPER JAFFRAY Minneapolis	$236	$82	$45	None	None	$35	19	250	2
	RAYMOND JAMES St. Petersburg, Florida	$218	$80	$50	$3.00	$50	$35	18	110	1
	SOUTHWEST Dallas	$217	$75	$100	$2.25	$25	$25	1	15	2
DISCOUNT	CHARLES SCHWAB	$110	$55	$39	None	None	$22	None	None	None
	FIDELITY	$110	$54	$50	None	None	$20	None	None	None
	OLDE DISCOUNT	$80	$40	$40	None	None	None	7	115	2
	QUICK & REILLY	$84	$49	$50	None	None	$25	None	None	None
	WATERHOUSE	$61	$35	$50	None	None	$25	None	None	None

[1]Purchased at time of auction. [2]All fees are the maximum that can be levied. [3]Applies only to purchases. [4]Fee is levied on all accounts, regardless of activity. [5]After 18 months. [6]Except where noted, fees are for accounts with check-writing privileges and a debit or credit card.

plies, "The discount label is sort of a misnomer. We're going to broaden that category and change it." In 1990, Schwab opened its Asia Pacific service center in San Francisco. Staffed by reps who speak Mandarin, Cantonese, Japanese, and Vietnamese, it handles Schwab's 2,000 or so Asian customers around the world. A similar center for Hispanic clients just opened in Miami.

Schwab's moves into service have had the happy side effect of helping reduce its dependence on commission revenues. The Big Foot stalking most discount firms is a collapse of trading volume. If people don't trade, you can't make any money. By shifting emphasis away from transactions to service, Schwab is preparing to weather the inevitable slowdown. At the end of 1987, commissions accounted for 67% of Schwab's total revenues. Last year they made up only 44%, with the rest coming mainly from interest (38%), principal transactions (8%), and mutual fund service fees (7%).

Remarried to the daughter of a Texas oilman, Schwab is still driven by the need to succeed and expects competition to toughen. Quick & Reilly, a highly profitable, family-run outfit that is No. 3 in the business, recently embarked on a multimillion-dollar advertising campaign with an irreverent twist. A typical ad contrasts the stereotypical fast-talking, commission-driven broker pitching a "one-way ticket to Moneyville" with Quick & Reilly's salaried brokers. The company is also offering a money-back guarantee on commissions for any investor who is dissatisfied with its service.

Though they have only about 610,000 active accounts to Schwab's 1.7 million, the Quicks are in the midst of a major expansion, beginning with the addition of six new offices last fall to the 69 they already operated, and an additional six planned for 1992. The goal is to double the number of customer accounts over the next three years, an ambition aimed directly at Schwab. Leslie Quick III, president of the Quick & Reilly holding company, thinks success has made his chief competitor a little more vulnerable: "Schwab's headquarters building in San Francisco has digital stock-price tickers in the elevators. You know what that says? Fat-cat discounter."

FIDELITY BROKERAGE, the second-biggest player, has an impressive technological base and a wealthy parent, Fidelity Investments, one of the most sophisticated direct marketers around. This past year Fidelity Brokerage rolled out FOX, a PC-based trading system, plus TouchTone Trader, its own TeleBroker-like system. But it has only 68 offices. In the brokerage business, unlike the mutual fund industry, investors demand the opportunity to visit an office, even if

CENTRAL ASSET ACCOUNT			WRAP ACCOUNT Maximum annual fee		NO. OF RETAIL OFFICES	NO. OF RETAIL BROKERS	TELEPHONE NUMBER
Minimum opening balance	Annual fee	Recent interest rate on a $25,000 margin loan[1]	Equity account	Fixed-income account			
$10,000	$80	8.25%	3%	1.5%	420	6,700	212-392-2855
$20,000	$50	6.75%	3%[10]	1.5%[10]	450	4,533	314-289-3000
$20,000	$100	8.125%	3%	1.75%	499	11,000	800-MER-RILL
$10,000	$85	Broker's call rate plus 2%	2.8%	1.25%	270	4,870	800-950-5050
$15,000	$75	Broker's call rate plus 2.5%	3%	1.25%	300	5,500	800-367-8701
$10,000	$100	Broker's call rate plus 1.875%	3%	1.25%	419	8,930	800-233-7857
$5,000	$40	Broker's call rate plus 0.75%	2.75%	2.60%	87	563	800-243-8115[11]
$10,000	$85	Broker's call rate plus 1.5%	2.75%	2.75%	64	814	800-333-6000
$10,000	$75	Broker's call rate plus 1.5%	3%	3%	42	300	813-573-3800
$200	None[7]	7%	3%	3%	12	85	214-739-8888
$5,000	None	Broker's call rate plus 1.5%	N.A.	N.A.	163	2,292	800-435-4000
$5,000	None	Broker's call rate plus 1%	N.A.	N.A.	65	920	800-544-7272
$5,000	None	Broker's call rate plus 1.5%	N.A.	N.A.	180	500	800-USA-OLDE
$500	None[7]	Broker's call rate plus 0.75%	N.A.	N.A.	75	250	800-221-5220[12]
N.A.	N.A.	N.A.[9]	N.A.	N.A.	31	200	800-765-5185

[7]Account does not include a debit card. [8]In early May the broker's call rate was 5.875%. [9]Margin loan is available on regular accounts at the broker's call rate plus 1%. [10]Sum of two fees paid separately to the money manager and the broker. [11]In Connecticut call 800-842-3807. [12]In New York call 212-943-8772.

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UNQUESTIONED LIFETIME MECHANICAL GUARANTEE

they do so only rarely. Another problem: The management has had about as much job security as the wives of Henry VIII. Since 1987 the autocratic head of Fidelity Investments, Ned Johnson, has replaced the broker's top executives four times.

Some smaller national discounters are coming up with perks of their own. Olde Discount Stockbrokers in New York City, for instance, maintains a staff of seven equity analysts who make buy and sell recommendations on 115 stocks. Another potential threat comes from the growing legion of deep discounters, firms set up accommodate

A new potential threat comes from a growing legion of deep discounters, firms set up to accommodate active traders with commissions well below established discounters'.

active traders with commissions well below the established discounters'. The most prominent of these is Waterhouse Securities in New York. Though the deep discounters have only modest promotion budgets, the risk is that they could lure the more profitable accounts from the larger discounters.

Meanwhile, Wall Street has lumbered back to its feet after the debacles of the late 1980s. The industry as a whole turned a handsome profit last year, and after years of procrastination, the more traditional full-service firms are arming themselves with their own high-tech hardware. Giant Merrill Lynch recently went on-line with its Prism system, a $200 million baby that allows brokers to make direct-to-the-floor trades for customers as quickly as Schwab. Elsewhere on the Street, Kidder Peabody, Shearson, and Paine Webber are automating.

All this competitive pressure will likely keep things hot for everyone in the brokerage business. In its endless drive to collect assets, for instance, Schwab recently abolished the $22 annual fee on IRAs over $10,000. Ah, yes, competitive life may be getting meaner for stockbrokers, discount and otherwise, in the years ahead. But what a pleasant time to be an investor—if the market holds. F

IS THIS LAYOFF NECESSARY?

No, and it may even reveal stupid management. That's the view at recession-hit companies that have found scads of ways to avoid taking the fateful step. ■ *by Edmund Faltermayer*

EVERY CULTURE has folkways that horrify outsiders and even a few of the locals. In Spain it's bullfighting, in Australia it's dwarf throwing, and in the U.S. it's mowing down jobs in a recession. "Addictive," says Quinn Spitzer of the Kepner-Tregoe management consulting firm, who castigates American companies for their widespread inclination to counter problems simply by cutting heads. "A knee-jerk reaction," agrees Margaret Regan, a human resources expert at Towers Perrin. "The Japanese think we're out of our minds."

Heads have been rolling. Dan Lacey, who tracks layoffs as editor of the *Workplace Trends* newsletter, reports that in 1991 large corporations alone announced plans to cut 556,000 jobs permanently, four times as many as were marked for elimination in 1989. Even though the recession appears to be over, Lacey notes that layoff announcements during the first quarter continued at the same rate as a year ago. The purge, he says, mainly reflects a "historic, permanent restructuring of corporate America, the velocity of which increases in a recession." But in the view of more than a dozen recession-hit companies that have found ways to avoid the ax, some of the carnage also reveals a weak or unsteady hand at the top: bosses who allow overstaffing when times are good or who react rashly to a temporary setback in earnings.

"Layoffs are horribly expensive and destructive of shareholder value," says CEO Frank Popoff of Dow Chemical. Because Dow never got fat and happy when business was booming, Popoff didn't have to dump people when earnings dropped 62% between 1989 and 1991. Losses reached a record $2.3 billion last year at Ford Motor Co., but only a smattering of pink slips went out in the U.S. The head count is down at 3M, whose net income fell 12% in 1991. But unless performance is a problem, virtually no employee who wants to stay—and is willing to relocate—is forced to go. One reason for shunning layoffs, says senior VP Christopher Wheeler, is that the survivors "become traumatized."

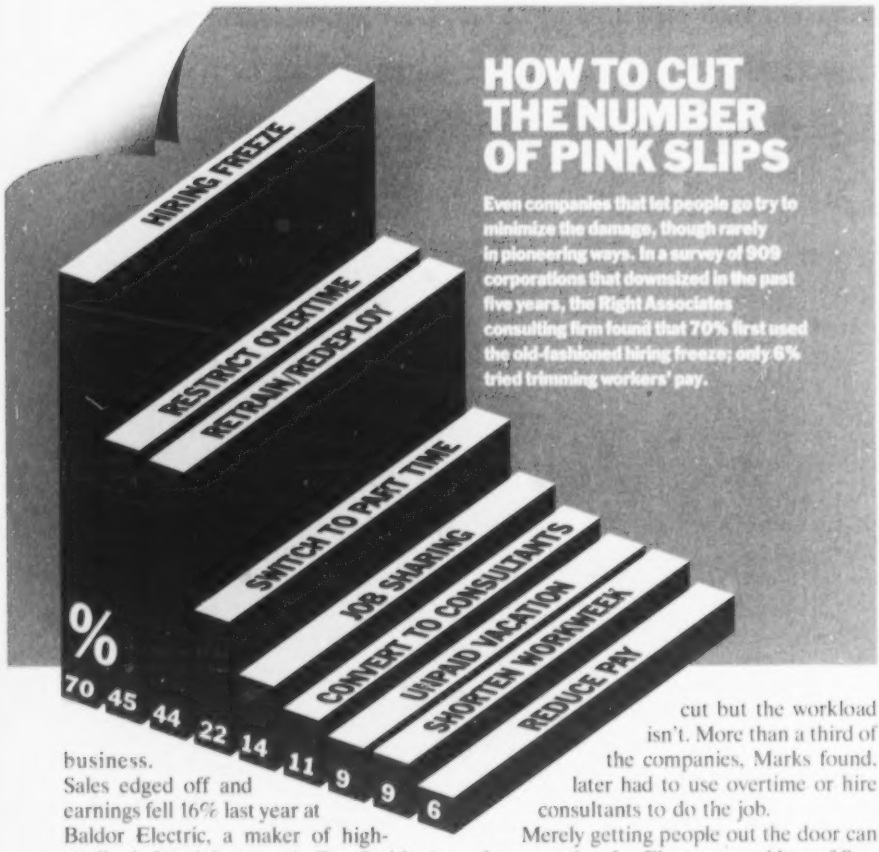
STEVEN ROBERTS

Layoffs, says Baldor Electric's Boreham, who hates them, send "a lot of experience out the door."

New evidence from Right Associates, a counseling and outplacement firm in Philadelphia, bears Wheeler out. The firm queried human-relations executives at 909 companies that have downsized in the past five years. Seventy percent reported that workers who were spared felt insecure about prospects with their employers. That's nothing, of course, to the anguish—family tension, divorce, suicide—of those told to leave.

Resisting cutbacks actually can be smart

REPORTER ASSOCIATE *Jessica Skelly von Bruchel*



business.

Sales edged off and earnings fell 16% last year at Baldor Electric, a maker of high-quality industrial motors in Fort Smith, Arkansas. But management refrained from issuing a layoff ukase. "We don't take this approach just to be good guys," says CEO Roland Boreham Jr., "but to build a good company and get the best people." One of the main objections to layoffs, he declares, is that "you have a lot of training, experience, and skills going out the door, as well as company loyalty." Baldor, boasts Boreham, is the opposite of a layoff-prone company in Fort Smith that he prefers not to name, where much of the work force is, in his view, "mediocre."

Boreham's observation is consistent with fresh data from Wharton School sociologist Michael Useem. Analyzing a yet-to-be-published survey of 406 restructured companies sponsored by the Commonwealth Fund of New York, Useem found that companies with a history of repeated bloodletting have trouble attracting new talent when they need it. Another part of the survey, says Mitchell Marks of the William Mercer consulting firm, shows that downsizings can misfire, especially if people are cut but the workload isn't. More than a third of the companies, Marks found, later had to use overtime or hire consultants to do the job.

Merely getting people out the door can be expensive. Jac Fitz-enz, president of Saratoga Institute, a California consulting firm, has toted up the typical tab for dismissing 100 employees with five years' service and an average salary of $30,000. Assuming five weeks' severance pay and such other items as the processing of dismissals and the shutdown of vacant facilities, the direct cost per employee comes to $7,140. To that must be added indirect costs, says Fitz-enz, including a temporary decline in quality as survivors learn the jobs of the departed and a possible loss of sales because of short staffing.

AND WHAT IF the company, as a result of miscalculation, has to staff up again? Figure on hiring costs of about $5,000 per employee, says Fitz-enz, who considers layoffs "management's admission of its inability to plan ahead." Costs of shedding and rehiring can skyrocket. One reason Dow Chemical abhors layoffs is that they cost from $30,000 to $100,000 or more for technical and managerial types. Hiring replacements, a Dow spokesman says, typically comes to $50,000 per employee if relocation expenses are part of the deal.

Layoffs deepen recessions. Each company's cuts, says economist Frank Lichtenberg of the Columbia business school, produce "externalities," or bad effects borne by the rest of society. Because payrolls shrink, so does the demand for products of other companies. Lichtenberg notes that from 1973 to 1985, Japan and Italy—the most inclined among the Group of Seven industrial countries to spare workers when business slows—had the most stable economies. Layoffs also chill consumer confidence. Michael Losey, president of the Society for Human Resource Management, a professional organization in Alexandria, Virginia, says a wave of fear has spread among salaried and managerial workers, whose colleagues have been heavily hit this time around. Says Losey: "I see people making $200,000 saying, 'I'll let the car run another year.' " And they do.

"A pet peeve of mine," says Regan of Towers Perrin, "is that American management often doesn't even *think* of alternatives to layoffs." Here are some of the myriad possibilities:

■ **JUST SAY NO.** CEO Joseph Vittoria of Avis, the car-rental company, says 1991 was a "difficult year." Pretax profits were down worldwide and fell by an especially steep 20% in the U.S. Several domestic competitors lopped off people, Vittoria says, including "one that doesn't waste a minute when things go sour." But not Avis, where "we're more family-oriented. We wait a bit." So far, in fact, Avis has allowed its 13,000-person American head count to rise slightly. The workload increased as agents wrote more rental contracts. What zapped profits was price warfare and lower revenue per rental. For five years employees have owned the No. 2 rent-a-car company through a stock ownership plan. But that does not rule out layoffs if conditions truly warrant them, Vittoria insists.

■ **CURB NEW HIRING.** Profits melted by 24% over the past two years at Gannett Co., publisher of *USA Today* and owner of ten television stations. But the head count is largely intact. With a few exceptions, says a spokeswoman, "we've elected not to fill jobs when they become vacant." At 3M, worldwide employment declined by 1,100 in 1991, or 1.25%, after creeping up for several years. Beginning in the late 1980s, se-

Ford Motor enticed George Zoyiopoulous, who spends "a lot of time outside," to retire early.

nior VP Wheeler recalls, the company began taking a hard look at staffing but relied on voluntary departures and transfers. When last year's earnings dip came, he says, layoffs were taboo, but "the rate of hiring was suddenly constrained."

The company stopped short of a rigid hiring freeze, which would have thinned the ranks about 4% a year through attrition, and kept up the level of college recruiting, especially of young technologists. To Wheeler, they're the lifeblood of a company that gets 30% of its revenue from products introduced within the past five years. He says that 3M encourages "long-term employment. One thing we haven't suffered from in the past three years is being off-balance, with employees not knowing what's coming next."

■ **PARE CONTINGENT WORKERS.** Despite a net loss of $343 million in its last fiscal year and continuing red ink, Delta Air Lines has not laid off a permanent employee in 35 years. "The very last thing you cut is people," says a spokesman. That philosophy doesn't apply to Delta's cadre of Temporary Part Time workers, or TPTs, who make up about 8% of the work force. They will play a bigger role under a new cost-cutting program as the ranks of permanent employees are allowed to thin through attrition. Delta's TPTs are part of America's fast-growing "contingent work force" of temps, part-timers, self-employed, and contract service workers.

Richard Belous, a senior economist at the National Planning Association, estimates the contingent ranks at nearly a fourth of the U.S. labor force, and possibly more. In addition to being flexible, many of these workers are inexpensive: They receive neither health nor pension benefits. Some who stay with an employer for relatively long spells, however, get paychecks and fringe benefits from employee-leasing services. New York City's Irene Cohen Personnel Services, which has been leasing workers to small firms for six years, recently opened Corporate Staffing Alternatives to cater to big corporations. Many companies that have restructured prefer to lease workers when they need to expand. "What are they supposed to do?" Cohen asks. "Hire people, only to fire them a year later?"

By the end of 1992, IBM will have shrunk its huge work force by 80,000, or 20%, in six years. Yet so far, it claims, it has avoided layoffs by devising a raft of alternatives. The latest is to convert some of its employees to free-lancers. A new outfit called Employment Solutions, one of the computer maker's "alternative business arrangements," has already signed up a dozen IBMers to perform the in-house personnel work—processing applications, checking résumés—they formerly did as permanent staffers. These new members of the contingent work force will work for Big Blue or any other client who wants their services.

■ **USE VOLUNTARY LEAVES.** Sales climbed all through the 1980s at Donnelly Corp. of Holland, Michigan, an innovative supplier of glass parts—rear-view mirrors, window assemblies—to Detroit's automakers and Japanese transplants. But in 1990, when the automotive recession cut into profits, Donnelly put the brakes on costs. About 100 temporary workers were let go, some of whom have since returned. In addition, 150 permanent employees took leaves of one to four weeks.

Deciding who should take the leaves was worked out in group meetings, where those who wanted them for personal reasons—or could afford the loss of income—volunteered to go. "We have participative management," says Maryam Komejan, corporate secretary. "Our people problem-solve together." In April, Donnelly won the 1992 "corporate conscience award for employer responsiveness" from the Council on Economic Priorities, an organization that promotes corporate social responsibility.

Despite continuing red ink, Delta Air Lines has not laid off a permanent employee in 35 years.

■ **REDUCE PAY.** What child has not asked, "Daddy, why don't they just cut everybody's pay to save jobs?" Searingly logical, but easier said than done, especially at unionized companies, where workers might view a temporary pay cut as the prelude to a permanent give-

back. But there was no problem at Worthington Industries, a mostly nonunion company in Columbus, Ohio. Although profits fell 16% in its last fiscal year, nobody was jettisoned.

At Worthington, which precuts steel for auto and appliance makers, bonuses pegged to company profits make up 40% of a worker's wages. "The beauty of profit sharing," says Joseph Stegmayer, Worthington's CFO, "is that when business slows, there is an automatic reduction in compensation." Earnings fell about 5% for the average employee in calendar 1991 and up to 11% for company officers, whose pay is more heavily linked to profits.

■ **SHARE THE WORK.** If pay cuts are a hang-up, why not leave the pay *rates* alone but temporarily reduce hours? "Pain sharing" has long been the policy at Nucor, the steelmaker, where some fabricating plants are still on four-day weeks and pay has fallen accordingly. CEO George Willis of Lincoln Electric, the leading producer of arc-welding equipment and supplies, considers layoffs a "senseless" loss of workers, who require two years' experience to become efficient. Employees own 40% of the Euclid, Ohio, company's stock, and the 1,400 U.S. production workers are paid under a combined piecework and profit-sharing system. Until April, with earnings down, factory workers making two of the company's three product lines scaled back from 40-hour weeks to 32 hours every other week.

When orders sagged at Baldor Electric last year, the company's biggest factory avoided layoffs by working seven four-day weeks. CEO Boreham regrets that such a step had to be taken. "You do that," he says, "only after you do a lot of other things. We refilled the pipeline of finished inventory so we'd have enough work for our plants, brought out new products, and did more advertising." To cut costs, Boreham adds, Baldor learned to get by with its existing computer instead of buying a bigger one. Other economies saved "a half million here and a half million there," says the chief, and a hiring freeze—"which we did without apologies"—brought the head count down 5%. The employees themselves proposed work sharing. Says Boreham: "You might call it a Christian idea."

"Pain sharing" has long been the policy at Nucor, where some plants are still on four-day weeks.

■ **ENCOURAGE EARLY RETIREMENT.** Suppose none of the above is sufficient? A company may still avoid the killing fields by coaxing people to exit early. While other alternatives to layoffs are essentially freebies, this one costs big money. IBM, whose overstaffing problems transcend the recession, has been offering early-retirement packages for several years. So has Hewlett-Packard, which has brought down its head count by 5.5% since 1989 without layoffs. One pitfall is that if the early-out offer is too widely available, the company may lose more people than it wants to. That happened in the mid-1980s at Du Pont, which is using a more selective approach this time.

In July 1991, Chairman Edgar Woolard Jr. announced a drive to cut $1 billion in costs. But instead of offering early retirement across the board, the chemical company identified work it wanted to eliminate—mostly in U.S. "support" functions such as accounting and public relations that are not directly connected with inventing, making, or selling products. Du Pont concocted a potent inducement. Under an actuarial reduction based on expected remaining life, a 50-year-old, $50,000-a-year employee with 25 years of service would normally draw a pension of only $7,512 a year. But if this Du Pont employee is in one of the activities tagged for pruning, the actuarial reduction is waived and the annual pension leaps to $18,756. Of the 6,500 folks who perform the unneeded work identified so far, all have agreed to go voluntarily.

■ **BE LEAN TO START WITH.** Few organizations enter a recession totally flab-free, but past adversity can work some of the same wonders as NordicTrack. In the late 1980s, Texaco slenderized after battling raider Carl Icahn and paying $3 billion to

When Debra Paxton was reorganized out of a job in California, Dow Chemical moved her to Texas.

Pennzoil to settle a lawsuit. Today Texaco employs 18% fewer Americans than in 1985. Earnings fell 11% in 1991, and the oil giant announced a cut in this year's capital and exploration budget—but no layoffs.

Big losses in the early 1980s drove Ford to the edge of a cliff with no guardrail. The company closed plants, just as GM is doing now, and from 1978 to 1982 it took a scythe to its U.S. ranks, cutting them by 38% to 161,000. Despite the lush years that followed, Ford went into the 1990 downturn with the same slim staff. Last year it whittled a further $3 billion out of costs by, among other things, repairing some machine tools instead of replacing them, getting lower prices from suppliers, and curbing travel expenses. U.S. dismissals were *de minimis*.

Last year Ford whittled $3 billion out of costs. But dismissals were *de minimis*.

On the hourly side, that might seem like a meaningless feat. The current contract with the United Auto Workers discourages layoffs by guaranteeing that idled hourly workers receive at least 95% of their usual take-home pay. But Ford has held down the number who sit around. When times were good, the company relied heavily on overtime—and workweeks up to 56 hours—so it could cut hours rather than people when sales slackened. The policy is not just humanitarian. Layoffs create quality problems, says Jim Quinn of Ford's employee relations staff. "We estimate that for every person out the door, three people have to be moved to other jobs. The last thing a plant manager wants is to lay people off."

At its leanest, Ford is lean indeed. Under flexible rules negotiated with the UAW, a plant in Romeo, Michigan, turns out a new V-8 engine for Lincoln Town Cars and other large models. Foremen are gone, and teams are responsible for safety and quality. Partly because of the teamwork, Romeo employs half the usual number to make an engine that plant manager George Pfeil calls "the best there is."

As for salaried workers, no union contract bars Ford from discharging them wholesale. But nothing of the kind has happened. Last year the salaried staff in the U.S. declined by about 2,400, or 5%. Attrition reduced the count by 700, and a special early-retirement window, since closed, lured out another 1,400. Happily relaxing in a new home on Michigan's Saginaw Bay is George Zoyiopoulous, 56, who as a Ford executive helped improve quality and develop work teams for new models. Though Zoyiopoulous still does short consulting stints, he doesn't need the money and spends "a lot of time outside" sailing, fishing, and skiing.

The number actually let go—300—is a pinprick compared to the slaughter of a de-

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cade ago. James Womack, one of the authors of a five-year MIT study of the world automotive industry, says Ford is "not completely lean" in the white-collar area. But he credits it with "working hard to push the head count down."

Two years ago, when Dow Chemical was still enjoying its third-best earnings ever, President Frank Popoff took a kind of pride in his company's "stressful" atmosphere. He told a visitor to corporate headquarters in Midland, Michigan: "People complain to me regularly about the fact that they're overworked. 'I come in on weekends,' they say. 'My wife is mad at me.' 'My kids don't see me as much as they used to.' My admonition is, please look to your priorities because I'm not going to be a party to overstaffing this company and then saying, 'Oh gosh, I guess we'll have to lay off 10%.'"

When you lay people off, says Popoff, "you lose the loyalty you've busted your butt to build."

James Wilbur, a security analyst at Smith Barney, attests that "there's not much fat at Dow." The company's return on equity fell to 10.4% last year, from 36.8% in 1988, but worldwide employment held steady. Says Popoff: "We let people go only on the basis of performance. When operations are closed, we try to redeploy as many of those people as we can."

One who was offered a transfer is Debra Paxton. When Dow decided to shut down administrative activities and some manufacturing operations in Pittsburg, California, her job running a ten-person product distribution staff disappeared. But now she's happily helping improve materials management at Dow's big Freeport, Texas, complex. She's back in the area where she grew up, the cost of living is lower than in California, and she's gotten a pay increase.

So has Brian Jaeckel, who handled computer problems in California and now does the same sort of work in Texas. Before he came there, he says, he went through seven months of negotiations with Dow to make sure he found the job he wanted. Many companies would simply incur an earnings charge and let such people go, but not Popoff. Says he: "A hit to earnings—and losing all these experienced people—is not something I can take to the stockholders with a smile on my face."

Dow, like many companies that have avoided layoffs, has a long-term perspective conditioned by years of outpacing its industry. When you lay people off, says Popoff, "you lose all the loyalty you've busted your butt to build." No sentimentalist, he argues that loyal workers try harder: "The quality of work you get from motivated people is literally light-years ahead of what you get from people who aren't well motivated." Are we in Michigan or Japan? Looks as if the Americans haven't *all* lost their senses. F

FORTUNE

THE SERVICE 500

CONTENTS

THE 500
INTRODUCTION

What kind of year was 1991 for the FORTUNE 500 service companies? Not so hot. Profits rose only slightly from 1990's depressed levels. Among the stars: retailers, diversified financial companies, and—are you ready?—life insurers.

PAGE 168

THE 500 RANKED BY
PERFORMANCE

Which company made the most money? Which has been the best investment? Here are the top 50 companies by 12 different measures including profits, market value, earnings growth, and returns on sales, assets, and common equity.

PAGE 201

THE 500
LISTINGS

Here are the rankings of the nation's largest service companies in eight lines of business from diversified service to retailers to utilities. Notes, definitions, and explanations, page 196. Arrivals, departures, and money losers, page 198.

PAGE 174

THE 500 RANKED WITHIN
STATES

New York is the service state, with 71 companies headquartered there. California has 55 and Illinois, 36. This listing tells where each company is located, how it ranks in its state, who the CEO is, and what telephone number to call.

PAGE 214

INDEX TO ALL 500 COMPANIES.....238

THE FORTUNE 500 LARGEST U.S. SERVICE CORPORATIONS

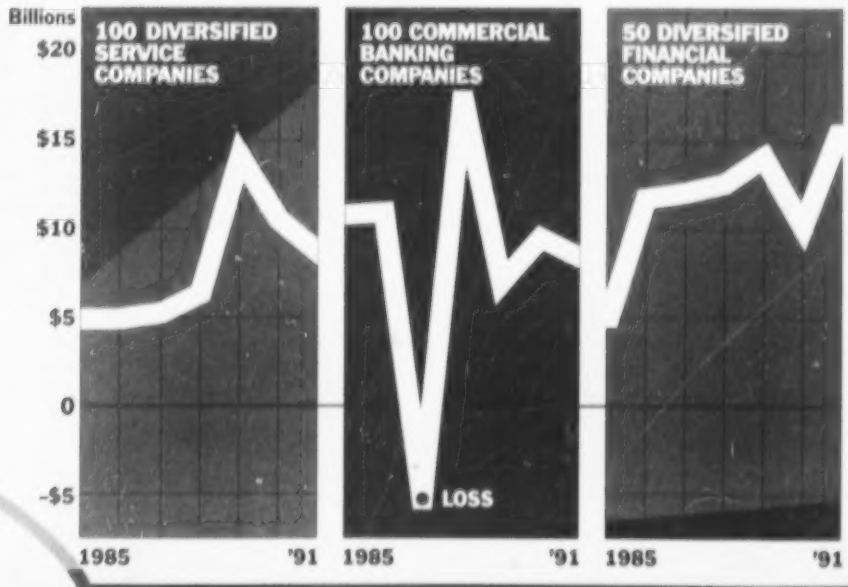
NOTHING TO WRITE HOME ABOUT

When it comes to describing the performance of the Service 500 companies last year, the song kind of says it: Been down so long, it looks like up to me. After two years of declining profits, the money changers and merchants, haulers of goods and drawers of electricity on this list produced $67 billion in earnings, vs. $61 billion the year before. But hey, at least they're heading in the right direction, and they earned $12 billion more than the FORTUNE 500 industrial corporations did. Investors did even better in 1991's frisky bull market. The median total return for the 500 service companies—that's stock price appreciation plus dividends—was 40%, which sure beat 1990's *minus* 16%.

The recession that turned consumers into tightwads took its toll on service providers, and nearly one-fifth of the companies on our list lost money last year. But some concerns thrive even in the worst of times, and you can find them by looking at the performance tables that begin on page 201. These lists are among several new features that make this year's expanded Service 500 even more useful and accessible. Other additions include listings by state (page 214) and the summary tables in this introduction

continued

EARNINGS UPS & DOWNS OF



PROFITS FOR THE SERVICE 500

SERVICE CATEGORY Biggest company	1991 $ millions	% CHANGE from 1990
100 DIVERSIFIED SERVICE COMPANIES	$8,732	(17%)
American Telephone & Telegraph	$522	(81%)
100 COMMERCIAL BANKING COMPANIES	$8,520	(11%)
Citicorp	($457)	(200%)*
50 DIVERSIFIED FINANCIAL COMPANIES	$15,997	57%
Federal National Mortgage Association	$1,363	16%
50 SAVINGS INSTITUTIONS	($687)	—
H.F. Ahmanson	$246	29%
50 LIFE INSURANCE COMPANIES	$7,343	54%
Prudential of America	$1,003	201%
50 RETAILING COMPANIES	$9,317	38%
Sears Roebuck	$1,279	42%
50 TRANSPORTATION COMPANIES	($267)	(174%)*
United Parcel Service	$700	17%
50 UTILITIES	$18,385	(11%)
GTE	$1,580	3%

*Profit decrease over 100% reflect swings from 1990 profits to 1991 losses.
**Net income based on statutory accounting.

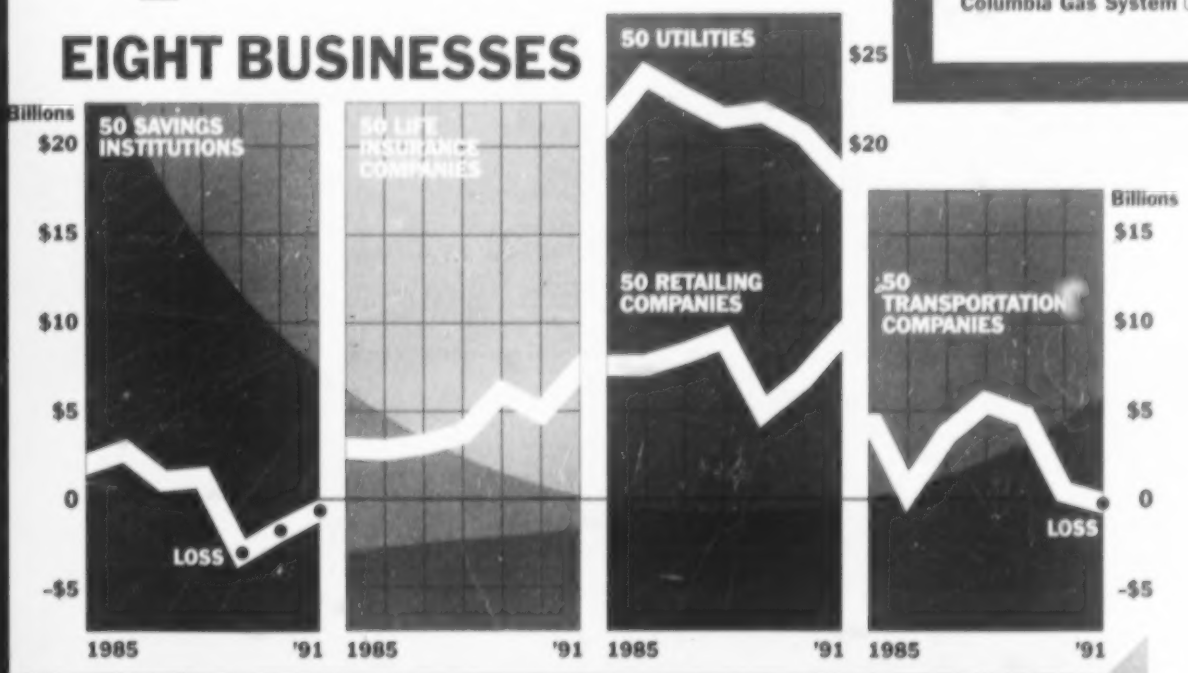
BIGGEST MONEY MAKERS

	500 RANK	Millions
Wal-Mart Stores	R-2	$1,608
GTE	U-1	$1,580
American Intl. Group	F-6	$1,553

BIGGEST MONEY LOSERS

Homefed Corp.	I-6	($808)
Security Pacific Corp.	B-7	($775)
Columbia Gas System	U-38	($694)

EIGHT BUSINESSES



THE SERVICE

500

THE HIGHEST RETURNS ON . . .

SALES/REVENUES

	500 RANK	
Fund American	F-42	566%
MBIA	F-45	54%
Exxon Pipeline	T-29	36%

ASSETS

	500 RANK	
Fund American	F-42	44%
Microsoft	S-64	28%
U.S. Healthcare	S-70	20%

COMMON EQUITY

	500 RANK	
Fund American	F-42	111%
ARA Group	S-26	107%
Service Merchandise	R-36	73%

THE BEST AND WORST INVESTMENTS*

LEADERS

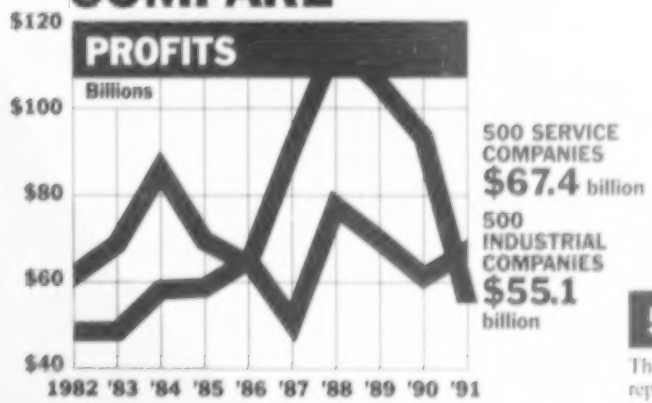
	500 RANK	1 Year	10 Year
Anchor Bancorp	I-11	392%	—
Charles Schwab	F-31	304%	—
Ameritrust Corp.	B-55	290%	22%

LAGGARDS

	500 RANK	1 Year	10 Year
Homefed Corp.	I-6	(94%)	—
First City Bancorp. of Texas	B-57	(88%)	—
American Savings Bank	I-29	(85%)	—

*Total return to investors includes stock price increase or decrease, plus dividends.

HOW THE 500s COMPARE



KEY TO RANK

	PAGE
B—COMMERCIAL BANKING COMPANIES	178
F—DIVERSIFIED FINANCIAL COMPANIES	182
I—SAVINGS INSTITUTIONS	184
L—LIFE INSURANCE COMPANIES	186
R—RETAILING COMPANIES	188
S—DIVERSIFIED SERVICE COMPANIES	174
T—TRANSPORTATION COMPANIES	190
U—UTILITIES	192

500 LISTS

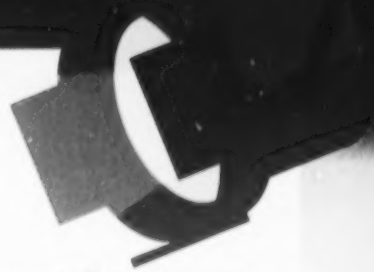
This is the second of FORTUNE's four annual 500 listings. Updated reprints of the U.S. Industrial and Service directories will be available in a single booklet at the end of August. Price: $25.
Address: The 1992 FORTUNE Directory,
229 West 28th Street, New York, N.Y. 10001.

ISSUES IN PRINT

- INDUSTRIAL 500: April 20
- SERVICE 500: June 1

UPCOMING ISSUES

- GLOBAL INDUSTRIAL 500: July 27
- GLOBAL SERVICE 500: August 24



that highlight the best and worst performers by several key criteria.

Among the stars are the diversified financial companies, life insurers, retailers, and—at least on a relative basis—savings institutions. The aforementioned taurus, no Ferdinand, kicked up commissions for the brokerage firms and capital gains for the property and casualty insurers, thereby carrying the diversified financials to record profits of $16 billion, up 57% from 1990. For the fifth straight year American International Group was the most profitable of the bunch, netting $1.5 billion on revenues of $15.8 billion.

The collapse of Executive Life and Mutual Benefit Life has given the staid, belt-and-suspenders life insurers some unwelcome image problems. This is, after all, an industry that equates its safety with the Rock of Gibraltar, and rocks are not supposed to crumble. But the reality behind the damaged image is that profits rose industrywide by a reassuring 52% while net income for the largest insurer, Prudential, rocketed 591% to $1.4 billion.

Retailers continued to earn good profits on barely rising revenues. In a near repeat of 1990's performance, sales inched up only 6% while net income climbed by more than a third. The Wal-Mart juggernaut led the whole Service 500 yet again both in market value and in total profits—$1.6 billion, up 25% from a year earlier. Even logy old Sears Roebuck racked up a 42% increase in earnings last year.

Think of the savings institutions as folks who are finally out of intensive care but are not ready to go home. Last year 32 of the 50 largest thrifts were profitable, vs. 23 the year before, and the group cut its overall loss by 62% to $687 million. Still pretty sick, but the vital signs are looking better. Indeed, Anchor Bancorp brought home the tail and ears for the year's best total return to investors: 392%.

Everybody else took it on the chin. Profits were down 11% in banking, 11% in utilities, 17% in diversified services, and a truly horrendous drop from a $359 million profit to a $267 million loss in transportation. Three up, one improving, and four down: The performance of the 500 is beginning to give service a bad name. **—Mark Fefer and Sally Solo**

THREE THAT BIT THE DUST

It sure was a dog's breakfast year for the airlines. First the Gulf war discouraged trips. Then recession settled in, and so did cash-strapped travelers. Costly fare wars flared, and the 11 companies on this year's transportation list bled a total of $1.6 billion. Today America West, Continental, and TWA are all flying in Chapter 11, the kinder, gentler bankruptcy. Pan Am, Midway, and Braniff entered Chapter 7 liquidations, the we're-not-kidding-around-anymore type, and thus have departed our list.

COMPANY	1990 RANK	PEAK REVENUES* $ millions	PEAK EMPLOYMENT	PEAK MARKET VALUE $ millions	PRE-LIQUIDATION MARKET VALUE $ millions
PAN AM	T-15	$4,165.1 1988	48,974 1980	$1,035.7 12/85	$10.3 9/91
MIDWAY	T-35	$655.4 1990	5,700 1990	$126.8 12/88	$1.4 10/91
BRANIFF	T-43	$484.6 1989	4,700 1989	$80.4 12/88	$13.8 10/89

*Since deregulation of the industry in 1978.

THE SERVICE 500

THE 100 LARGEST DIVERSIFIED SERVICE

RANK BY SALES 1991	1990	(Major industry)	SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	1	**AMERICAN TEL. & TEL.** New York (telecomm.)[2]	63,314.0	68.9	522.0	5	(80.9)	53,355.0	1	16,228.0	1
2	●	**CARGILL** Minnetonka, Minn. (commodity sales)[3]	49,148.0	19.9	350.8	10	(5.7)	13,909.0	3	3,919.0	4
3	2	**ENRON** Houston (fuels)	13,522.1	2.4	241.8	14	19.6	10,071.7	7	1,929.2	14
4	3	**FLEMING** Oklahoma City (wholesale)	12,901.6	8.1	63.0	42	(35.2)	2,955.6	34	956.9	30
5	4	**TIME WARNER** New York (entertainment)	12,021.0	4.4	(99.0)	86	—	24,889.0	2	8,498.0	2
6	5	**SUPER VALU STORES** Eden Prairie, Minn. (wholesale)[4]	11,637.8	4.3	155.1	21	5.0	2,615.1	42	978.7	29
7	6	**SPRINT** Kansas City, Mo. (telecomm.)[5]	8,779.7	5.2	367.5	8	19.0	10,463.8	6	2,521.7	10
8	10	**MARRIOTT** Bethesda, Md. (hotels)	8,729.0	6.2	82.0	35	74.5	6,400.0	13	679.0	41
9	9	**MCI COMMUNICATIONS** Washington, D.C. (telecomm.)	8,439.0	9.6	551.0	3	84.3	8,834.0	9	2,959.0	8
10	8	**MCKESSON** San Francisco (wholesale)[6]	8,420.6	8.1	100.7	30	2.0	2,460.9	43	675.6	42
11	12	**SYSCO** Houston (wholesale)[7]	8,149.7	7.4	153.8	22	16.1	2,160.1	48	918.6	32
12	17	**WASTE MANAGEMENT** Oak Brook, Ill. (waste)	7,606.7	25.1	606.3	2	(11.5)	12,572.3	4	4,133.1	3
13	16	**ELECTRONIC DATA SYSTEMS** Dallas (computing)[8]	7,099.0	16.2	547.5	4	10.2	5,703.2	16	2,610.3	9
14	14	**HALLIBURTON** Dallas (eng., constr.)[9]	7,081.1	1.8	26.6	60	(86.5)	5,017.2	19	2,164.6	11
15	13	**FLUOR** Irvine, Calif. (eng., constr.)[9]	6,789.4	(9.3)	160.8	19	9.5	2,421.4	44	1,020.0	27
16	15	**PACIFIC ENTERPRISES** Los Angeles (natural gas)	6,668.0	(3.9)	(88.0)	84	—	6,701.0	10	1,699.0	16
17	18	**WALT DISNEY** Burbank, Calif. (theme parks)[10]	6,301.8	6.4	636.6	1	(22.7)	9,428.5	8	3,871.3	6
18	22	**HUMANA** Louisville, Ky. (hospitals)[11]	5,928.0	20.6	355.0	9	14.6	4,427.0	22	2,009.0	13
19	20	**WETTERAU** Hazelwood, Mo. (wholesale)[6]	5,770.4	7.1	51.1	48	10.0	1,159.8	70	224.7	77
20	19	**CAPITAL CITIES/ABC** New York (broadcasting)	5,480.8	0.0	343.5	11	(28.1)	6,695.7	11	3,654.8	7
21	21	**RYDER SYSTEM** Miami (truck rental)	5,061.1	(4.2)	14.0	68	(67.2)	5,000.1	18	1,387.7	19
22	7	**AMERICAN FINANCIAL** Cincinnati (casualty insurance)	5,015.3	(36.4)	72.3	36	225.2	12,057.3	5	261.7	75
23	24	**HOSPITAL CORP. OF AMERICA** Nashville (hospitals)	5,011.8	7.4	(5.3)	77	(108.6)	6,302.2	14	653.9	45
24	25	**ALCO STANDARD** Wayne, Pa. (wholesale)[12]	4,894.6	6.3	117.6	28	10.7	2,020.6	51	821.2	36
25	27	**BERGEN BRUNSWIG** Orange, Calif. (wholesale)[13]	4,838.3	8.9	64.1	41	(2.9)	1,322.3	65	455.2	59
26	26	**ARA GROUP** Philadelphia (food service)[10]	4,774.4	3.9	64.2	40	23.9	2,002.5	52	58.3	94
27	23	**DUN & BRADSTREET** New York (info. services)	4,685.4	(3.7)	508.5	6	0.1	4,771.4	21	2,161.1	12
28	28	**PARAMOUNT COMM.** New York (movies)[8]	4,029.2	(1.0)	122.2	27	(52.8)	6,640.3	12	3,894.8	5
29	29	**NATL. MEDICAL ENTERPRISES** Santa Monica, Calif. (hosp.)[11]	3,836.0	(3.3)	272.0	13	13.8	4,060.0	25	1,762.0	15
30	50	**GENERAL CINEMA** Chestnut Hill, Mass. (retail, cinemas)[9,12,13]	3,716.9	54.7	(293.1)	91	(363.5)	6,208.3	15	472.8	58
31	40	**JWP** Purchase, N.Y. (technical services)	3,594.4	27.1	60.3	45	1.6	2,281.1	46	496.5	54
32	30	**DIAL** Phoenix (travel services)[14]	3,568.5	(1.4)	(57.6)	82	(451.8)	3,592.4	29	940.7	31
33	32	**GENUINE PARTS** Atlanta (wholesale)	3,443.5	3.4	207.7	17	0.5	1,467.0	61	1,126.7	21
34	●	**PETER KIEWIT SONS'** Omaha (construction)[9]	3,356.0¶	(35.8)	N.A.		—	2,632.0	41	N.A.	
35	37	**DOLE FOOD** Westlake Village, Calif. (wholesale)[15]	3,230.9	7.0	133.7	25	11.0	2,793.0	37	1,041.1	25
36	34	**NATIONAL INTERGROUP** Carrollton, Texas (wholesale)[6]	3,226.1¶	1.8	(294.6)	92	(629.3)	1,058.4	72	434.6	61
37	38	**BROWNING-FERRIS INDUSTRIES** Houston (waste)[10]	3,196.9	7.4	65.2	38	—	3,655.9	27	1,114.3	22
38	35	**HARVEST STATES COOPS.** St. Paul (wholesale)[7]	3,072.9	(1.7)	N.A.[17]		—	468.6	91	200.3	80
39	31	**CBS** New York (broadcasting)	3,035.0	(15.7)	(85.8)	83	(177.4)	2,798.6	36	354.8	69
40	48	**NIKE** Beaverton, Ore. (wholesale)[3]	3,014.7	34.1	287.0	12	18.1	1,708.4	54	1,032.8	26
41	39	**ENSERCH** Dallas (natural gas)	2,834.7	0.0	19.1	65	(81.5)	3,163.1	32	861.3	33
42	42	**ALCO HEALTH SERVICES** Valley Forge, Pa. (wholesale)[12]	2,827.2	10.3	(14.5)	79	—	782.4	79	28.5	96
43	36	**ASSOCIATED MILK PROD.** San Antonio (wholesale)	2,768.2	(11.1)	N.A.[17]		—	562.4	85	123.8	87
44	49	**REEBOK INTERNATIONAL** Stoughton, Mass. (wholesale)	2,746.4	26.3	234.7	15	32.9	1,430.8	62	823.5	35
45	●	**PENN CENTRAL** Cincinnati (insurance)[18]	2,729.4	26.7	2.6	76	(97.3)	3,383.1	31	1,479.0	18
46	33	**TURNER CORP.** New York (construction)	2,675.1	(18.0)	11.3	73	—	707.8	82	46.4	95
47	41	**HERTZ** Park Ridge, N.J. (car rental)	2,633.7	(1.2)	48.4	49	(45.9)	3,824.2	26	727.7	38
48	43	**AMERICAN MEDICAL HOLDINGS** Dallas (hospitals)[11]	2,566.1	0.8	(19.0)	80	—	3,153.5	33	552.2	50
49	44	**ROUNDY'S** Pewaukee, Wis. (wholesale)	2,534.4	1.3	N.A.[17]		—	390.8	97	70.9	93
50	53	**BINDLEY WESTERN** Indianapolis (wholesale)	2,397.0	17.1	11.4	72	70.5	495.9	89	86.2	92

N.A. Not available.
● Not on last year's list.
** Reflects an extraordinary credit of at least 10%; see the explanations of "profits" and "earnings per share" on page 196.
† Average for the year; see the reference to "employees" on page 196.
¶ Includes sales from discontinued operations of at least 10%.
‡ Reflects an extraordinary charge of at least 10%; see the explanation of "profits" and "earnings per share" on page 196.
* Sales include all operating revenues, other income, and revenues from discontinued operations when they are published. Sales also include consolidated subsidiaries, but they do not include excise taxes. All figures are for the fiscal year ended December 31, 1991, unless otherwise noted. All companies on the list must have derived more than 50% of their rev-

MARKET VALUE 4/16/92		PROFITS AS % OF . . .						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				EMPLOYEES		
		SALES		ASSETS		COMMON STOCKHOLDERS' EQUITY		1991	% change from 1990	1981–91 annual growth rate		1991		1981–91 annual rate				RANK 1991
$ millions	Rank	%	Rank	%	Rank	%	Rank	$		%	Rank	%	Rank	%	Rank	Number	Rank	
56,170.4	1	0.8	64	1.0	69	3.2	66	0.40	(84.1)	(26.4)	53	34.6	38	14.9	35	317,100	1	1
N.A.		0.7	67	2.5	51	9.1	52	N.A.	—	—		—		—		60,000	11	2
3,831.8	18	1.8	48	2.4	52	12.7	38	2.15	22.2	(2.3)	44	33.1	39	14.9	33	7,371	60	3
1,111.7	44	0.5	70	2.1	55	6.3	62	1.78	(41.8)	0.4	36	0.7	65	13.6	41	22,800	29	4
9,734.6	6	(0.8)	81	(0.4)	78	(30.2)	82	(9.60)	—	—		6.9	57	12.8	43	41,000	19	5
1,931.9	32	1.3	56	5.9	25	15.9	21	2.06	4.6	10.4	20	17.8	51	13.2	42	42,905	18	6
5,269.5	12	4.2	25	3.5	42	14.5	31	1.68	17.5	(0.3)	39	6.2	59	15.2	32	43,200	17	7
1,575.8	38	0.9	62	1.3	64	17.1	16	0.80	73.9	2.2	32	61.4	23	9.7	52	202,000	2	8
8,690.3	7	6.5	15	6.2	24	17.6	15	2.01	89.6	42.1	1	52.7	24	13.6	39	27,857	26	9
1,298.3	41	1.2	59	4.1	37	16.5	18	2.34	4.9	0.2	38	12.4	54	12.6	44	13,300	46	10
4,837.6	13	1.9	46	7.1	19	16.7	17	1.67	15.2	16.8	9	39.6	32	26.3	7	21,000	32	11
19,868.2	4	8.0	12	4.8	32	14.7	29	1.23	(14.6)	17.6	7	21.7	45	27.4	6	63,040	10	12
N.A.		7.7	13	9.6	12	15.1	26	N.A.	—	—		—		—		69,886	9	13
2,498.8	28	0.4	74	0.5	72	1.2	70	0.25	(86.5)	(26.9)	54	(35.7)	80	(1.9)	62	73,400	6	14
3,538.5	22	2.4	38	6.6	22	15.8	22	1.97	8.8	(3.6)	46	19.9	48	5.8	57	19,625	35	15
1,478.6	40	(1.3)	82	(1.3)	82	(7.2)	79	(1.45)	—	—		(26.8)	78	8.2	55	40,953	20	16
19,879.1	3	10.1	6	6.8	20	16.4	19	4.78	(20.3)	17.8	6	13.5	53	25.7	8	58,000	13	17
3,881.8	17	6.0	20	8.0	16	17.7	14	2.26	13.0	13.3	14	(1.7)	68	13.8	37	70,500	7	18
456.4	71	0.9	63	4.4	35	22.4	11	2.19	9.5	7.5	26	(15.8)	75	18.4	20	16,100	42	19
7,788.0	8	6.3	16	5.1	30	9.4	48	20.47	(26.1)	12.8	16	(5.5)	71	19.5	18	19,640	34	20
1,906.8	33	0.3	75	0.3	74	0.3	72	0.05	(88.4)	(27.0)	55	39.6	33	11.2	48	40,196	21	21
N.A.		1.4	52	0.6	71	—		N.A.	—	—		—		—		16,000	43	22
N.A.		(0.1)	77	(0.1)	77	(3.5)	76	N.A.	—	—		—		—		70,000	8	23
1,727.4	35	2.4	37	5.8	27	14.3	32	2.61	2.0	6.1	27	6.3	58	17.2	26	17,860	39	24
776.7	54	1.3	57	4.9	31	14.1	33	1.50	(2.3)	11.7	19	(17.8)	77	11.4	47	3,724	79	25
N.A.		1.3	55	3.2	46	106.6	1	N.A.	—	—		—		—		135,000	3	26
10,037.8	5	10.9	5	10.6	8	23.5	9	2.85	1.8	10.2	21	42.9	30	17.6	21	58,500	12	27
5,684.6	10	3.0	34	1.8	57	3.1	67	1.03	(52.3)	(5.8)	49	(3.5)	70	20.0	16	12,400	50	28
2,350.4	29	7.1	14	6.7	21	15.4	24	1.70	13.3	5.5	29	(7.9)	73	12.4	45	48,500	15	29
1,672.7	36	(7.9)	88	(4.7)	87	(65.2)	85	(3.83)	(357.0)	—		(0.3)	67	17.3	25	46,469	16	30
723.2	55	1.7	50	2.6	49	12.5	39	1.54	(1.3)	27.5	3	0.8	64	22.4	12	22,000	30	31
1,585.3	37	(1.6)	83	(1.6)	83	(6.2)	77	(1.47)	(486.8)	—		94.2	12	16.9	28	32,746 †	23	32
3,679.6	19	6.0	19	14.2	6	18.4	13	2.72	1.5	8.1	25	32.8	40	17.1	27	17,100	40	33
N.A.		—		—		—		N.A.	—	—		—		—		8,000	59	34
1,900.6	34	4.1	26	4.8	33	12.8	37	2.24	10.3	8.2	24	24.3	42	16.1	30	50,000	14	35
283.1	72	(0.1)	90	(27.8)	92	(69.0)	86	(13.79)	(697.0)	—		2.7	62	(3.4)	65	2,354	89	36
3,397.0	23	2.0	43	1.8	58	5.8	64	0.42	—	0.2	37	0.7	66	17.5	23	27,000	27	37
N.A.		—		—		—		N.A.	—	—		—		—		2,169	93	38
2,518.6	27	(2.8)	84	(3.1)	85	(24.3)	80	(5.32)	(223.7)	—		(16.9)	76	14.9	34	6,160	63	39
5,293.1	11	9.5	8	16.8	3	27.8	6	3.77	17.4	25.8	5	82.3	13	28.5	4	5,500	65	40
894.8	53	0.7	68	0.6	70	0.7	71	0.07	(94.9)	(32.5)	57	(29.6)	79	(0.2)	61	11,600	52	41
N.A.		(0.5)	78	(1.9)	84	(51.0)	84	N.A.	—	—		—		—		2,323	90	42
N.A.		—		—		—		N.A.	—	—		—		—		4,319	75	43
2,933.9	24	8.5	11	16.4	4	28.5	5	2.37	53.9	—		192.5	1	—		4,220	76	44
982.2	49	0.1	76	0.1	76	0.2	73	0.05	(96.9)	(31.2)	56	35.4	37	8.7	54	18,600	37	45
50.4	81	0.4	73	1.6	61	22.5	10	2.06	—	(1.2)	40	(40.8)	81	(2.0)	63	2,800	83	46
N.A.		1.8	47	1.3	65	6.6	61	N.A.	—	—		—		—		18,100	38	47
699.1	58	(0.7)	80	(0.6)	79	(3.4)	75	(0.38)	—	—		73.3	15	(4.5)	66	29,600	25	48
N.A.		—		—		—		N.A.	—	—		—		—		5,330	67	49
103.1	80	0.5	71	2.3	53	13.2	36	1.61	61.0	—		38.9	35	—		464	100	50

SERVICE

enues from nonmanufacturing and nonmining businesses. Excluded but eligible for the lists that follow are companies deriving more than 50% of revenues solely from banking, life insurance, finance, savings, retail, transportation, or utilities.

† Company merged with NCR (No. 79 on last years FORTUNE Industrial 500) on September 19, 1991.

‡ Figures are for fiscal year ended May 31, 1991.

§ Figures are for fiscal year ended February 28, 1991.

¶ Name changed from United Telecommunications.

Figures are for fiscal year ended March 31, 1991.

** Figures are for fiscal year ended June 30, 1991.

†† Wholly owned by General Motors (No. 1 on FORTUNE Industrial 500).

‡‡ Figures are for fiscal year ended October 31, 1991.

§§ Figures are for fiscal year ended September 30.

CONTINUED

THE SERVICE

500

THE 100 LARGEST DIVERSIFIED SERVICE

RANK BY SALES 1991	1990		SALES[1] $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
51	46	**BORG-WARNER** Chicago (security svcs.)	2,375.7	1.1	10.5	74	(62.8)	2,201.8	47	668.3	43
52	45	**NASH FINCH** St. Louis Park, Minn. (wholesale)	2,343.3	(1.3)	19.1	66	6.9	429.6	94	178.8	83
53	50	**BEVERLY ENTERPRISES** Fort Smith, Ark. (nursing homes)	2,320.9	9.8	29.2	59	125.4	1,673.4	55	599.1	47
54	52	**CENTEX** Dallas (homebuilder)[6]	2,243.8	8.3	43.6	52	(29.7)	2,032.1	50	483.7	56
55	55	**COMDISCO** Rosemont, Ill. (computer leases)[10]	2,174.0	12.4	69.0	37	(27.4)	5,006.0	20	634.0	46
56	58	**SERVICEMASTER** Downers Grove, Ill. (management svcs.)	2,115.8	15.4	86.0	33	3.5	843.7	78	122.0	88
57	54	**W.W. GRAINGER** Skokie, Ill. (wholesale)	2,084.5	7.4	127.7	26	0.8	1,216.6	67	860.4	34
58	62	**FOSTER WHEELER** Clinton, N.J. (eng., constr.)	2,031.6	20.1	43.3	53	13.0	1,634.7	57	538.0	51
59	56	**PHH** Hunt Valley, Md. (vehicle mgt.)[9]	2,031.1	6.3	47.1	50	21.3	4,198.7	23	392.9	62
60	63	**MORRISON KNUDSEN** Boise, Idaho (construction)	1,980.0	19.0	35.1	58	2.0	1,034.1	74	385.1	63
61	47	**ITEL** Chicago (wholesale)	1,956.7	(15.5)	(114.2)	87	(186.3)	2,752.3	40	513.8	53
62	57	**PITTSTON** Stamford, Conn. (security services)	1,932.7	4.2	(151.9)	89	(348.7)	1,240.1	66	316.5	71
63	72	**INTELLIGENT ELECTRONICS** Exton, Pa. (wholesale)[7]	1,919.2	31.4	38.2	57	30.6	706.5	83	274.5	73
64	84	**MICROSOFT** Redmond, Wash. (software)[7]	1,885.2	55.3	462.7	7	65.7	1,644.2	56	1,350.8	20
65	59	**SUPER FOOD SERVICES** Dayton (wholesale)[11]	1,826.0	2.7	12.2	70	(29.0)	304.2	100	130.3	86
66	61	**AUTOMATIC DATA PROC.** Roseland, N.J. (computing)[7]	1,771.8	3.4	227.7	16	7.5	1,564.9	59	1,052.6	24
67	70	**COMPUTER SCIENCES** El Segundo, Calif. (software)[6]	1,746.3	15.8	65.0	39	(0.8)	1,006.8	75	526.2	52
68	60	**AVNET** Great Neck, N.Y. (wholesale)[7]	1,740.8	(0.6)	61.6	43	9.0	1,181.5	69	801.4	37
69	65	**VIACOM** New York (pay TV)	1,711.6	7.0	(49.7)	81	—	4,188.4	24	599.5	39
70	80	**U.S. HEALTHCARE** Blue Bell, Pa. (HMOs)	1,708.5	28.5	151.1	23	94.9	758.2	80	346.9	70
71	64	**ACE HARDWARE** Oak Brook, Ill. (wholesale)	1,704.3	4.9	N.A.[17]		—	541.0	86	164.4	84
72	●	**TWENTIETH CENTURY FOX FILM** Los Angeles (movies)[7,20]	1,697.9	91.9	164.7	18	182.5	2,786.9	38	1,572.9	17
73	67	**FARMERS UNION (CENEX)** Inver Grv. Hgts., Minn. (wholesale)[10]	1,685.9	7.6	N.A.[17]		—	734.0	81	368.5	64
74	78	**INTERPUBLIC GROUP** New York (advertising)	1,677.5	22.6	94.6	31	18.1	2,784.3	39	586.8	48
75	66	**CBI INDUSTRIES** Oak Brook, Ill. (construction)	1,614.9	2.5	61.1	44	10.8	1,478.9	60	666.2	44
76	68	**OGDEN** New York (maintenance services)	1,572.1	0.6	43.7	51	(21.8)	2,846.3	35	478.1	57
77	●	**CONTROL DATA** Minneapolis (software)[21]	1,549.8	(10.5)	(9.8)‡	78	(463.0)	1,213.8	68	446.2	60
78	51	**BALLY MANUFACTURING** Chicago (casinos)	1,539.0	(26.1)	21.5**	63	—	2,120.4	49	364.7	66
79	73	**TURNER BROADCASTING** Atlanta (broadcasting)	1,490.8	5.9	85.9**	34	1,759.3	2,397.2	45	(37.6)	97
80	●	**FIRST FINANCIAL MANAGEMENT** Atlanta (info. services)	1,473.1	59.2	89.0	32	22.1	5,497.4	17	993.0	28
81	74	**RYKOFF-SEXTON** Los Angeles (wholesale)[19]	1,461.6	3.9	13.8	69	22.4	405.2	96	185.9	82
82	71	**KELLY SERVICES** Troy, Mich. (temp. help)	1,437.9	(2.2)	38.6	56	(45.8)	479.4	90	355.0	68
83	76	**UNIVAR** Seattle (wholesale)[4]	1,396.2	1.3	19.6	64	(8.8)	526.4	88	148.3	85
84	82	**COMPUTER ASSOCIATES** Islandia, N.Y. (software)[6]	1,362.0	4.2	159.3	20	1.0	1,599.1	58	1,090.4	23
85	100	**MEDCO CONTAINMENT SVCS.** Montvale, N.J. (prescrip. svcs.)[7]	1,342.7	33.8	58.5	46	—	701.8	84	496.0	55
86	●	**FHP INTERNATIONAL** Fountain Valley, Calif. (HMOs)[7]	1,316.5	32.1	40.1	55	39.3	528.8	87	269.8	74
87	89	**SERVISTAR** Butler, Pa. (wholesale)[7]	1,296.0	15.3	N.A.[17]		—	415.9	95	92.7	91
88	75	**ECOLAB** St. Paul (wholesale)	1,273.1	(8.4)	(243.6)	90	(553.5)	921.9	76	298.2	72
89	●	**PACIFICARE HEALTH SYSTEMS** Cypress, Calif. (HMOs)[10]	1,257.3	27.1	25.7	62	45.7	322.3	98	99.7	90
90	85	**OMNICOM GROUP** New York (advertising)	1,254.4	5.1	57.1	47	9.7	1,885.9	53	366.2	65
91	77	**KAUFMAN & BROAD HOME** Los Angeles (construction)[22]	1,224.6	(10.8)	26.5	61	(33.6)	1,373.0	63	258.1	76
92	81	**RYLAND GROUP** Columbia, Md. (homebuilder)	1,214.3	(7.5)	9.5	75	(56.6)	3,559.3	30	218.6	78
93	86	**PHM** Bloomfield Hills, Mich. (homebuilder)	1,213.8	5.4	40.7	54	36.9	3,634.8	28	356.8	67
94	96	**H&R BLOCK** Kansas City, Mo. (tax preparation)[9]	1,190.8	13.1	140.1	24	13.4	1,035.8	73	573.6	49
95	83	**CHARTER MEDICAL** Macon, Ga. (hospitals)[10]	1,188.3	(7.5)	(130.0)	88	—	1,347.1	64	(1,138.3)	99
96	●	**CARDINAL DISTRIBUTION** Dublin, Ohio (wholesale)[6]	1,184.3	35.2	17.4	67	36.2	446.4	93	193.4	81
97	88	**COMMERCIAL METALS** Dallas (wholesale)[11]	1,161.3	2.1	12.0	71	(53.6)	460.8	92	203.6	79
98	91	**HARDWARE WHOLESALERS** Fort Wayne (wholesale)[7]	1,140.7	2.8	N.A.[17]		—	318.3	99	118.1	89
99	●	**PIONEER HI-BRED INTERNATIONAL** Des Moines (wholesale)[11]	1,138.4	16.8	104.2	29	43.4	1,085.7	71	680.7	40
100	79	**NATIONAL GYPSUM** Dallas (eng., constr.)	1,136.3	(14.7)	(95.8)	85	—	887.8	77	(581.8)	98
TOTALS			450,197.1		8,732.2			363,015.4		105,889.7	

1991.
[11] Figures are for fiscal year ended August 31, 1991.
[12] Company was No. 50 on last year's Retailing list.
[13] Company acquired Harcourt Brace Jovanovich (No. 274 on last year's FORTUNE Industrial 500) on November 25, 1991.
[14] Name changed from Greyhound Dial.
[15] Company was No. 105 on last year's FORTUNE Industrial 500.
[16] Name changed from Castle & Cooke.
[17] Cooperatives provide only net margin figures, which are not comparable with the profit figures on this list.
[18] Company was No. 204 on last year's FORTUNE

MARKET VALUE 4/16/92		PROFITS AS % OF . . .						EARNINGS PER SHARE						TOTAL RETURN TO INVESTORS				EMPLOYEES		
		SALES		ASSETS		COMMON STOCK-HOLDERS' EQUITY		1991	% change from 1990	1981-91 annual growth rate		1991		1981-91 annual rate				RANK 1991
$ millions	Rank	%	Rank	%	Rank	%	Rank	$		%	Rank	%	Rank	%	Rank	Number	Rank	
N.A.		0.4	72	0.5	73	1.6	69	—	—	—		—		—		85,400	5	51
211.8	76	0.8	65	4.4	34	10.7	46	1.75	6.7	5.2	30	2.3	63	18.4	19	10,888	53	52
635.4	60	1.3	58	1.7	59	4.8	65	0.37	94.7	(3.7)	47	2.9	60	1.4	60	93,000	4	53
713.5	57	1.9	45	2.1	54	9.0	53	2.83	(29.6)	(1.9)	43	51.9	25	13.7	38	5,300	68	54
547.6	66	3.2	32	1.4	63	10.9	44	1.78	(23.9)	14.8	13	20.6	47	15.6	31	2,179	91	55
1,106.4	45	4.1	27	10.2	10	70.5	2	1.78	1.9	17.5	8	68.3	18	17.6	22	21,800	31	56
2,910.2	25	6.1	17	10.5	9	14.8	28	2.37	2.6	9.1	22	65.8	20	21.5	14	8,778	57	57
947.1	50	2.1	41	2.6	48	8.0	57	1.22	13.0	(4.2)	48	20.8	46	9.2	53	9,335	55	58
593.1	63	2.3	39	1.1	66	12.0	41	2.78	21.4	5.1	31	39.5	34	6.6	56	4,589	72	59
692.4	59	1.8	49	3.4	44	9.1	50	2.60	(10.3)	(3.4)	45	19.4	50	10.8	51	12,700	48	60
554.1	65	(5.8)	86	(4.1)	86	(27.9)	81	(3.49)	(230.2)	—		96.1	11	—		5,300	69	61
592.5	64	(7.9)	87	(12.2)	90	(48.0)	83	(4.07)	(348.2)	—		(10.8)	74	(2.8)	64	20,100	33	62
508.4	68	2.0	44	5.4	28	13.9	34	1.11	6.2	—		62.8	22	—		2,669	84	63
22,926.8	2	24.5	1	28.1	1	34.3	4	2.47	58.3	—		121.8	6	—		8,226	58	64
110.3	79	0.7	69	4.0	38	9.3	49	1.13	(29.4)	13.0	15	(7.2)	72	22.5	11	2,480	88	65
6,424.3	9	12.9	2	14.5	5	21.6	12	1.63	13.2	15.3	12	71.7	16	23.6	10	19,000 †	36	66
1,166.4	43	3.7	29	6.5	23	12.4	40	4.02	(1.2)	8.2	23	65.5	21	19.9	17	23,000	28	67
913.5	52	3.5	30	5.2	29	7.7	58	1.72	9.6	(1.2)	41	7.2	56	3.5	59	7,250	61	68
4,223.0	14	(2.9)	85	(1.2)	81	(7.1)	78	(0.44)	—	—		30.5	41	—		4,900	70	69
3,571.1	20	3.8	10	19.9	2	43.6	3	2.09	93.5	—		114.2	7	—		2,538	86	70
N.A.		—		—		—		N.A.	—	—		—		—		3,110	81	71
N.A.		9.7	7	5.9	26	—		N.A.	—	—		—		—		1,800	95	72
N.A.		—		—		—		N.A.	—	—		—		—		2,500	87	73
2,266.4	30	5.6	22	3.4	45	16.2	20	2.60	9.2	16.8	10	66.5	19	30.0	1	16,800	41	74
1,265.5	42	3.8	28	4.1	36	8.3	56	1.54	(2.5)	(6.9)	50	22.4	44	4.5	58	12,600	49	75
946.6	51	2.8	35	1.5	62	9.1	51	1.01	(22.9)	(8.4)	51	15.5	52	12.2	46	40,000	22	76
489.2	70	(0.6)	79	(0.8)	80	(2.4)	74	(0.24)‡	(580.0)	—		22.5	43	(10.4)	67	13,000	47	77
225.8	75	1.4	54	1.0	68	7.0	60	0.55**	—	(15.7)	52	147.1	4	(14.7)	68	32,540	24	78
4,139.5	15	5.8	21	3.6	41	—		0.24**	—	—		105.6	9	28.8	3	4,370	74	79
1,563.2	39	6.0	18	1.6	60	9.0	55	1.92	7.5	—		70.2	17	—		9,800	54	80
211.6	78	0.9	61	3.4	43	7.4	59	1.19	24.0	1.8	34	19.5	49	13.6	40	5,550	64	81
1,077.0	47	2.7	36	8.1	15	10.9	45	1.28	(46.0)	12.6	18	(1.8)	69	21.7	13	3,900	78	82
211.7	77	1.4	53	3.7	40	13.2	35	1.10	(9.8)	(1.8)	42	8.9	55	11.2	49	2,826	82	83
2,635.3	26	11.7	4	10.0	11	14.6	30	0.86	1.2	38.3	2	48.4	27	29.2	2	6,700	62	84
4,086.1	16	4.4	24	8.3	14	11.8	42	1.07	—	—		161.4	2	—		4,400	73	85
492.4	69	3.0	33	7.6	18	14.9	27	1.37	37.0	—		2.8	61	—		8,980	56	86
N.A.		—		—		—		N.A.	—	—		—		—		2,169	92	87
1,092.8	46	(19.1)	92	(26.4)	91	(83.1)	87	(9.16)	(569.7)	—		43.8	28	17.3	24	13,500	45	88
718.3	56	2.0	42	8.0	17	25.8	7	2.20	48.6	—		143.1	5	—		1,647	96	89
1,008.2	48	4.5	23	3.0	47	15.6	23	2.08	3.5	2.0	33	43.5	29	10.9	50	12,300	51	90
635.0	61	2.2	40	1.9	56	10.3	47	0.80	(36.0)	—		99.3	10	—		814	99	91
279.5	73	0.8	66	0.3	75	3.1	68	0.53	(65.4)	27.3	4	49.8	26	24.1	9	2,548	85	92
593.6	62	3.3	31	1.1	67	11.4	43	1.63	38.1	15.8	11	153.1	3	21.1	15	1,976	94	93
3,551.4	21	11.8	3	13.5	7	24.4	8	1.31	13.4	12.8	17	78.7	14	28.0	5	4,200	77	94
N.A.		(10.9)	91	(9.7)	88	—		(6.89)	—	—		N.A.		—		14,700	44	95
512.0	67	1.5	51	3.9	39	9.0	54	1.31	26.9	—		42.8	31	—		1,100	97	96
254.0	74	1.0	60	2.6	50	5.9	63	1.12	(50.7)	1.7	35	37.4	36	16.9	29	3,709	80	97
N.A.		—		—		—		N.A.	—	—		—		—		855	98	98
2,015.4	31	9.2	9	9.6	13	15.3	25	3.44	47.6	5.6	28	107.1	8	14.3	36	4,768	71	99
N.A.		(8.4)	89	(10.8)	89	—		N.A.	—	—		—		—		5,500	66	100
282,659.6																2,536,205		

Industrial 500.
[19] Figures are for fiscal year ended April 30, 1991.
[20] Wholly owned by News Corp. (No. 203 on last year's Global Industrial 500).
[21] Company was No. 238 on last year's FORTUNE Industrial 500.
[22] Figures are for fiscal year ended November 30, 1991.

CONTINUED

THE SERVICE 500

THE 100 LARGEST COMMERCIAL BANKING

RANK BY ASSETS 1991	1990		ASSETS[1] $ millions	% change from 1990	DEPOSITS $ millions	Rank	LOANS[2] $ millions	Rank	PROFITS $ millions	Rank	% change from 1990
1	1	**CITICORP** New York	216,922.0	(0.0)	146,475.0	1	147,636.0	1	(457.0)	98	(199.8)
2	6	**CHEMICAL BANKING CORP.** New York[3]	138,930.0	90.3	92,950.0	3	80,962.0	3	154.0	22	(47.1)
3	2	**BANKAMERICA CORP.** San Francisco	115,509.0	4.3	94,067.0	2	83,948.0	2	1,124.0	2	0.8
4	7	**NATIONSBANK CORP.** Charlotte, N.C.[4]	110,319.0	69.0	88,075.0	4	67,503.0	4	202.0	17	(44.8)
5	4	**J.P. MORGAN & CO.** New York	103,468.0	11.1	36,976.0	10	26,378.0	12	1,146.0	1	14.0
6	3	**CHASE MANHATTAN CORP.** New York	98,197.0	0.1	71,517.0	5	65,825.0	5	520.0	5	—
7	5	**SECURITY PACIFIC CORP.** Los Angeles	76,411.0	(9.8)	54,228.0	6	56,101.0	6	(774.5)	100	(580.2)
8	8	**BANKERS TRUST NEW YORK CORP.** New York	63,959.0	0.6	22,834.0	22	15,241.0	24	667.0	3	0.3
9	10	**WELLS FARGO & CO.** San Francisco	53,547.0	(4.7)	43,719.0	7	42,453.0	7	21.0	76	(97.0)
10	13	**FIRST CHICAGO CORP.** Chicago	48,963.0	(3.6)	32,091.0	13	24,777.0	14	116.3	35	(53.3)
11	11	**FIRST INTERSTATE BANCORP** Los Angeles	48,922.1	(4.7)	41,433.3	8	26,908.6	11	(288.1)	95	(161.5)
12	22	**BANC ONE CORP.** Columbus, Ohio	46,293.1	52.6	37,057.0	9	29,658.7	9	529.5	4	25.1
13	16	**FIRST UNION CORP.** Charlotte, N.C.	46,084.9	13.0	36,597.7	11	31,446.5	8	318.7	9	4.7
14	19	**FLEET/NORSTAR FINANCIAL GROUP** Providence[5]	45,444.8	39.8	35,245.3	12	25,740.4	13	97.7	40	—
15	14	**PNC FINANCIAL CORP.** Pittsburgh	44,891.7	(1.4)	30,019.4	14	24,646.1	15	389.8	7	449.7
16	15	**BANK OF NEW YORK CO.** New York	39,426.0	(13.1)	28,974.0	15	26,988.0	10	122.0	32	(60.4)
17	21	**NORWEST CORP.** Minneapolis[6]	38,501.6	25.7	25,438.9	18	19,233.1	20	398.5	6	42.0
18	17	**SUNTRUST BANKS** Atlanta	34,553.6	3.4	27,988.0	17	21,207.9	17	370.7	8	5.8
19	29	**WACHOVIA CORP.** Winston-Salem, N.C.[7]	33,158.3	26.2	23,006.3	21	20,257.4	19	229.5	13	(22.8)
20	20	**BARNETT BANKS** Jacksonville, Fla.	32,720.5	1.6	28,854.7	16	23,039.6	16	123.8	31	22.4
21	18	**BANK OF BOSTON CORP.** Boston	32,700.2	0.5	24,737.6	20	20,506.6	18	(26.6)**	84	—
22	23	**REPUBLIC NEW YORK CORP.** New York	31,220.8	5.5	20,382.9	25	8,341.5	42	227.4	15	13.0
23	24	**FIRST FIDELITY BANCORP.** Lawrenceville, N.J.	30,215.2	3.8	25,218.5	19	16,731.9	23	221.2	16	—
24	27	**NBD BANCORP** Detroit	29,513.5	10.3	22,192.6	24	17,457.4	22	293.0	10	5.6
25	25	**MELLON BANK CORP.** Pittsburgh	29,355.0	2.1	22,454.0	23	18,507.0	21	280.0	11	60.9
26	30	**NATIONAL CITY CORP.** Cleveland	24,169.7	1.8	18,325.2	27	15,215.7	25	231.0	12	(1.1)
27	26	**CONTINENTAL BANK CORP.** Chicago	24,008.0	(11.5)	15,735.0	32	13,464.0	29	(75.0)	88	(201.9)
28	37	**KEYCORP** Albany, N.Y.	23,155.5	20.2	19,051.6	26	14,876.9	26	188.1	20	26.7
29	31	**SHAWMUT NATIONAL CORP.** Boston	22,815.5	(3.7)	16,512.8	29	13,300.7	31	(170.6)	91	—
30	33	**CORESTATES FINANCIAL CORP.** Philadelphia	21,623.9	(8.1)	16,040.5	31	14,690.1	27	228.1	14	100.1
31	34	**NATIONAL WESTMINSTER BANCORP** New York[8]	21,459.1	(8.0)	16,896.7	28	13,449.1	30	(371.5)	97	—
32	39	**U.S. BANCORP** Portland, Ore.	18,875.1	7.2	13,316.4	38	13,677.8	28	196.4	18	7.5
33	38	**FIRST BANK SYSTEM** Minneapolis	18,301.0	(3.7)	14,479.0	34	12,807.0	32	190.4	19	45.8
34	32	**MIDLANTIC CORP.** Edison, N.J.	18,170.3	(23.0)	16,089.8	30	11,644.2	34	(543.3)	99	—
35	40	**BOATMEN'S BANCSHARES** St. Louis	17,634.7	1.0	13,477.2	37	9,520.3	38	150.1	24	11.0
36	41	**UNION BANK** San Francisco[9]	17,473.7	7.1	13,159.7	39	12,787.7	33	93.5	41	(36.2)
37	28	**MNC FINANCIAL** Baltimore	17,438.2	(33.9)	13,892.7	35	9,359.3	37	(70.2)	87	—
38	36	**MARINE MIDLAND BANKS** Buffalo[10]	16,946.8	(15.7)	13,580.0	36	10,554.5	36	(189.9)	93	—
39	43	**FIRST OF AMERICA BANK CORP.** Kalamazoo, Mich.	16,755.0	19.3	15,020.8	33	11,325.7	35	134.9	28	2.5
40	42	**SOCIETY CORP.** Cleveland	15,404.5	1.9	11,535.1	40	9,417.4	39	163.0	21	3.2
41	54	**STATE STREET BOSTON CORP.** Boston	15,046.3	29.1	8,731.4	52	1,839.4	98	139.3	26	18.7
42	48	**HARRIS BANKCORP** Chicago	14,480.9	16.0	9,458.9	46	7,781.8	43	104.1	37	30.1
43	46	**COMERICA** Detroit	14,450.8	8.6	11,441.0	41	9,090.1	40	153.4	23	19.4
44	49	**MANUFACTURERS NATIONAL CORP.** Detroit	13,544.2	12.1	8,853.8	49	7,552.2	45	120.2	33	11.1
45	47	**UBI FINANCIAL** Princeton, N.J.	13,377.7	4.4	11,313.5	42	8,480.2	41	22.4	75	—
46	53	**NORTHERN TRUST CORP.** Chicago	13,192.5	11.9	8,560.3	55	6,134.0	55	127.4	30	10.4
47	52	**HUNTINGTON BANCSHARES** Columbus, Ohio	12,332.6	4.4	9,510.8	45	7,558.6	44	117.0	34	37.3
48	63	**FIRSTAR CORP.** Milwaukee	12,309.5	31.2	10,063.4	43	7,394.0	46	134.3	29	37.7
49	50	**CRESTAR FINANCIAL CORP.** Richmond	11,828.3	(0.4)	8,889.6	48	6,855.8	49	33.8	72	(44.8)
50	59	**BANCORP HAWAII** Honolulu	11,409.3	6.6	8,666.2	53	6,517.2	51	112.7	36	17.8

N.A. Not available.
● Not on last year's list.
** Reflects an extraordinary credit of at least 10%; see the explanations of "profits" and "earnings per share" on page 196.

† Average for the year; see the reference to "employees" on page 196.
‡ As of December 31, 1991. All companies on the list must have more than 80% of their assets in chartered commercial banking institutions.

[1] Net of unearned discount and loan loss reserves.
[2] Figure includes lease financing.
[3] Figures reflect merger with Manufacturers Hanover Corp. (No.9 on last year's list), December 31, 1991.

COMPANIES

STOCKHOLDERS' EQUITY $ millions	Rank	MARKET VALUE 4/16/92 $ millions	Rank	PROFITS AS % OF ASSETS %	Rank	PROFITS AS % OF COMMON STOCKHOLDERS' EQUITY %	Rank	EARNINGS PER SHARE 1991 $	% change from 1990	1981-91 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1991 %	Rank	1981-91 annual rate %	Rank	EMPLOYEES Number	Rank	RANK 1991
9,489.0	1	5,713.1	6	(0.2)	84	(8.8)	82	(1.89)	(290.9)	—		(13.8)	85	3.8	79	86,000	1	1
7,281.0	3	8,288.5	5	0.1	78	0.4	77	0.11	(95.4)	(32.7)	72	109.6	15	6.7	74	43,169	4	2
8,063.0	2	9,521.3	3	1.0	25	15.8	8	4.81	(2.8)	4.8	46	39.9	74	9.6	67	54,369	3	3
6,518.0	4	11,276.3	1	0.2	76	2.7	73	0.76	(77.6)	(7.2)	65	85.2	34	23.3	24	57,177	2	4
6,068.0	5	10,163.5	2	1.1	9	20.2	3	5.80	11.3	10.6	23	60.7	51	23.2	25	13,323	22	5
5,324.0	6	3,427.0	16	0.5	64	9.8	61	3.12	—	(6.0)	62	76.0	43	3.0	80	36,210	6	6
3,470.0	8	4,899.8	10	(1.0)	92	(25.5)	88	(6.37)	(718.4)	—		52.7	62	11.6	65	37,319	5	7
3,412.0	9	4,430.4	13	1.0	16	21.7	2	7.75	(0.6)	8.4	32	54.5	60	20.0	39	12,088	26	8
3,271.0	11	3,505.3	15	0.0	81	0.1	78	0.04	(99.7)	(34.3)	73	6.3	83	22.3	28	21,000	12	9
2,970.0	13	2,089.9	31	0.2	72	3.3	72	1.15	(65.7)	(9.1)	69	63.9	48	8.9	70	17,014	16	10
2,639.5	15	2,369.9	26	(0.6)	88	(16.0)	85	(5.24)	(171.8)	—		34.9	77	4.5	77	30,281	7	11
3,814.1	7	8,656.6	4	1.1	7	14.5	20	2.91	16.0	12.3	12	95.7	23	26.6	14	27,500	8	12
3,112.5	12	4,615.6	12	0.7	58	10.5	57	2.55	1.2	8.4	33	104.6	17	19.0	48	24,203	11	13
2,510.0	18	3,616.9	14	0.2	74	3.8	69	0.67	—	(6.6)	64	137.3	10	19.6	41	25,200	10	14
3,316.8	10	5,612.3	7	0.9	38	11.8	48	3.95	441.1	5.5	44	132.9	11	19.0	47	16,908	17	15
2,902.4	14	2,866.9	19	0.3	69	3.6	70	1.28	(67.8)	(7.6)	66	85.1	36	14.5	57	13,226	23	16
2,591.2	16	5,277.4	8	1.0	19	16.9	6	2.95	8.1	8.7	31	81.7	39	22.7	26	25,500	9	17
2,545.9	17	4,645.8	11	1.1	11	14.6	18	2.90	5.5	10.0	25	80.6	40	21.2	33	19,103	13	18
2,484.4	19	5,076.7	9	0.7	57	9.2	62	2.68	(36.9)	7.1	37	43.7	71	22.7	27	17,643	15	19
1,975.3	23	2,606.9	21	0.4	67	6.5	66	1.71	6.2	2.2	53	88.0	31	16.8	54	17,755	14	20
1,614.1	27	1,392.8	39	(0.1)	83	(2.8)	79	(0.53)**	—	—		86.4	33	6.9	73	16,100	19	21
1,997.6	22	2,029.8	32	0.7	55	13.3	34	3.95	8.9	4.7	47	45.5	67	14.3	58	4,549	68	22
1,944.8	24	2,505.8	23	0.7	54	11.9	47	3.37	—	1.8	55	92.7	27	19.2	45	11,504	27	23
2,089.5	20	3,322.5	17	1.0	21	14.0	25	2.49	(0.4)	12.2	13	40.0	73	29.5	6	13,129	24	24
2,073.0	21	2,139.6	28	1.0	30	14.0	26	4.66	64.7	(2.3)	60	53.7	61	5.2	76	16,900	18	25
1,929.1	25	2,580.6	22	1.0	29	12.7	39	3.62	(6.2)	9.1	29	25.7	78	21.9	29	15,721	20	26
1,512.0	30	947.6	51	(0.3)	86	(10.0)	83	(2.08)	(397.1)	—		13.6	80	(19.5)	85	4,596	66	27
1,485.7	31	2,229.1	27	0.8	45	13.7	30	2.57	11.1	12.1	15	100.2	19	29.1	8	13,122	25	28
1,039.8	39	1,096.3	45	(0.7)	90	(17.2)	86	(2.35)	—	—		89.7	29	4.1	78	10,800	29	29
1,538.5	28	2,415.6	25	1.1	14	14.8	12	4.19	103.4	10.6	24	58.7	54	26.0	16	13,479	21	30
1,705.7	26	N.A.		(1.7)	95	—		N.A.	—	—		—		—		7,339	38	31
1,411.9	32	2,114.2	29	1.0	17	13.9	27	2.01	(1.5)	7.0	38	72.2	47	18.1	51	11,281	28	32
1,530.0	29	2,107.1	30	1.0	18	14.5	21	2.13	39.2	2.9	51	92.4	28	17.2	53	8,897	34	33
727.3	52	276.2	84	(3.0)	99	(80.8)	91	(14.36)	—	—		(10.0)	84	(4.6)	82	9,561	32	34
1,343.3	33	1,720.4	36	0.9	39	11.2	53	4.07	4.4	2.7	52	54.7	59	19.7	40	9,124	33	35
1,075.2	36	735.8	67	0.5	62	9.2	63	2.64	(37.6)	1.3	57	12.1	81	9.5	68	7,283	39	36
1,020.5	40	731.8	68	(0.4)	87	(7.7)	81	(0.89)	—	—		50.0	64	2.4	81	7,820	37	37
1,100.5	35	N.A.		(1.1)	93	—		N.A.	—	—		—		—		10,140	31	38
1,073.8	37	1,148.2	43	0.8	48	13.2	35	3.32	1.8	12.6	11	44.9	68	24.2	23	10,310	30	39
1,116.7	34	3,211.8	18	1.1	13	14.6	16	4.90	4.0	10.8	22	60.1	53	24.5	22	7,919	36	40
816.6	47	2,503.0	24	0.9	32	17.1	5	3.72	17.0	16.9	5	87.3	32	35.5	1	8,321	35	41
861.1	43	N.A.		0.7	56	12.1	46	15.61	30.1	13.6	8	N.A.		—		5,401	57	42
1,052.1	38	1,856.4	34	1.1	12	14.8	13	5.04	0.1	12.8	10	101.3	18	26.9	13	7,180	40	43
832.8	45	1,502.3	38	0.9	34	14.4	22	3.81	7.3	23.9	1	94.9	24	31.0	3	6,254	45	44
811.8	48	757.1	64	0.2	77	2.6	74	0.45	—	(10.0)	70	115.8	13	16.1	55	6,504	44	45
820.7	46	1,828.4	35	1.0	28	17.3	4	3.43	11.0	10.9	21	72.9	46	27.7	12	5,798	51	46
853.0	44	1,291.0	40	0.9	31	13.7	29	1.90	37.6	6.8	39	93.8	26	19.6	42	6,250	46	47
916.3	41	1,513.6	37	1.1	10	14.2	23	4.27	4.1	9.9	26	77.4	42	26.0	17	6,512	43	48
794.9	50	822.4	61	0.3	70	4.2	68	0.98	(47.6)	(4.9)	61	37.4	75	11.4	66	5,581	54	49
724.0	53	1,255.5	41	1.0	24	15.6	10	4.04	10.0	11.8	18	60.6	52	24.6	20	4,188	72	50

* Name changed from NCNB Corp. (No. 7 on last year's list) after merger with C&S/Sovran Corp. (No. 12 on last year's list), December 31, 1991.

** Figures reflect acquisition of Bank of New England (No. 35 on last year's list), July 14, 1991.

† Figures reflect acquisition of United Banks of Colorado (No. 87 on last year's list), April 19, 1991.

‡ Name changed from First Wachovia Corp. (No. 29 on last year's list). Figures reflect acquisition of South Carolina National Corp. (No. 78 on last year's list), December 6, 1991.

CONTINUED

THE SERVICE 500

THE 100 LARGEST COMMERCIAL BANKING

RANK BY ASSETS 1991	1990		ASSETS[1] $ millions	ASSETS[1] % change from 1990	DEPOSITS $ millions	DEPOSITS Rank	LOANS[1] $ millions	LOANS[1] Rank	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990
51	51	**MERIDIAN BANCORP** Reading, Pa.	11,336.9	(4.5)	9,452.9	47	7,238.4	47	100.6	38	347.4
52	55	**SIGNET BANKING CORP.** Richmond	11,238.8	(1.5)	8,480.5	56	5,554.3	60	(25.7)	83	(162.2)
53	60	**VALLEY NATIONAL CORP.** Phoenix	10,651.7	1.0	9,626.1	44	6,260.3	53	34.6	70	360.6
54	58	**MICHIGAN NATIONAL CORP.** Farmington Hills	10,650.2	(2.8)	8,655.5	54	6,433.1	52	50.1	62	4.3
55	57	**AMERITRUST CORP.** Cleveland	10,181.0	(7.5)	8,479.7	57	6,888.4	48	(86.5)	89	—
56	64	**SOUTHTRUST CORP.** Birmingham, Ala.	10,158.1	12.8	8,277.2	58	5,884.6	58	90.0	43	29.1
57	45	**FIRST CITY BANCORP. OF TEXAS** Houston	9,943.5	(25.5)	8,797.2	50	5,246.3	64	(224.8)	94	—
58	61	**DOMINION BANKSHARES** Roanoke, Va.	9,711.0	(6.4)	7,871.0	59	5,938.6	57	20.6	77	—
59	62	**BAYBANKS** Boston	9,515.8	(5.6)	8,757.6	51	6,140.5	54	9.7	80	—
60	67	**AMSOUTH BANCORP.** Birmingham, Ala.	9,459.3	8.7	7,372.7	61	5,478.7	61	80.4	46	4.8
61	66	**BANK OF TOKYO TRUST** New York	9,234.6	5.3	5,715.1	75	4,466.2	73	2.0	82	(93.6)
62	33	**FIRST EMPIRE STATE CORP.** Buffalo[2]	9,171.1	18.9	7,474.3	60	5,946.3	56	67.2	52	24.6
63	70	**FIRST MARYLAND BANCORP** Baltimore	8,945.5	9.4	6,987.1	66	5,426.4	62	75.1	48	72.4
64	72	**INTEGRA FINANCIAL** Pittsburgh	8,846.9	16.0	7,223.1	63	4,093.0	79	70.2	50	168.9
65	69	**OLD KENT FINANCIAL CORP.** Grand Rapids, Mich.	8,826.1	7.6	7,314.0	62	5,024.3	67	93.0	42	6.3
66	71	**FIFTH THIRD BANCORP** Cincinnati	8,826.1	10.9	6,687.3	67	5,716.3	59	138.1	27	14.7
67	65	**BANPONCE CORP.** San Juan	8,780.3	(2.3)	7,207.1	64	5,101.4	65	64.6	55	1.9
68	75	**LASALLE NATIONAL CORP.** Chicago[3]	8,651.9	17.3	6,399.0	69	4,710.6	70	85.8	44	12.5
69	68	**BANK OF CALIFORNIA** San Francisco[4]	8,480.5	0.0	5,854.1	73	6,768.9	50	(187.6)	92	(1,735.1)
70	56	**FIRST AMERICAN BANKSHARES** Washington, D.C.	8,392.2	(24.0)	7,075.5	65	5,030.0	66	(358.3)	96	—
71	73	**MERCANTILE BANCORP.** St. Louis	8,088.9	6.2	6,480.7	68	5,264.2	63	66.6	53	17.3
72	81	**FIRST TENNESSEE NATIONAL CORP.** Memphis	7,903.7	17.8	6,040.5	71	3,848.5	80	63.8	56	33.2
73	74	**MARSHALL & ILSLEY CORP.** Milwaukee	7,627.8	2.2	6,133.1	70	4,699.6	71	99.3	39	39.3
74	77	**SANWA BANK CALIFORNIA** Los Angeles	7,454.2	4.9	5,375.2	77	4,809.4	68	38.6	68	1.4
75	82	**FIRST SECURITY CORP.** Salt Lake City	7,015.1	8.0	5,333.8	80	4,649.6	72	59.6	60	30.3
76	88	**CENTRAL FIDELITY BANKS** Richmond	6,805.8	10.3	5,178.0	84	3,558.2	84	60.4	57	8.4
77	80	**COMMERCE BANCSHARES** Kansas City, Mo.	6,765.4	0.8	5,850.4	74	3,266.5	90	59.8	59	0.4
78	84	**FIRST ALABAMA BANCSHARES** Montgomery	6,745.1	6.3	5,917.0	72	4,220.2	77	78.3	47	13.6
79	85	**STAR BANC CORP.** Cincinnati	6,645.9	5.6	5,428.5	76	4,784.6	69	65.8	54	1.5
80	86	**INB FINANCIAL CORP.** Indianapolis	6,555.8	4.7	5,154.7	85	4,260.1	76	48.1	64	18.5
81	91	**FIRST HAWAIIAN** Honolulu	6,510.6	18.2	5,336.7	79	4,274.2	75	81.7	45	14.3
82	83	**FIRST AMERICAN CORP.** Nashville	6,377.0	(1.6)	5,332.1	81	3,626.2	82	16.9	78	—
83	94	**BB&T FINANCIAL CORP.** Wilson, N.C.	6,229.0	20.7	5,203.5	83	4,171.5	78	60.2	58	12.2
84	98	**CENTRAL BANCSHARES (SOUTH)** Birmingham, Ala.	6,121.9	24.6	4,518.7	92	3,548.5	85	59.4	61	21.5
85	92	**FIRST VIRGINIA BANKS** Falls Church, Va.	6,119.3	13.7	5,350.0	78	3,470.6	87	69.6	51	6.9
86	76	**HIBERNIA CORP.** New Orleans	6,018.4	(18.2)	5,301.8	82	3,535.9	86	(165.6)	90	—
87	●	**MBNA** Newark, Del.	6,009.0	31.2	5,094.0	86	2,788.8	94	149.2	25	15.7
88	89	**MERCHANTS NATIONAL CORP.** Indianapolis	5,806.3	(0.2)	4,404.9	93	3,662.1	81	5.8	81	(62.7)
89	90	**FIRST FLORIDA BANKS** Tampa	5,770.0	(0.2)	4,995.2	87	2,830.9	93	(42.4)	85	—
90	95	**TEAM BANCSHARES** Dallas	5,664.9	13.9	4,738.7	91	1,717.0	99	35.0	69	45.9
91	79	**RIGGS NATIONAL CORP.** Washington, D.C.	5,535.8	(21.5)	4,912.4	88	2,889.0	92	(63.5)	86	—
92	●	**FIRST CITIZENS BANCSHARES** Raleigh, N.C.	5,465.9	13.3	4,824.4	89	3,070.1	91	29.2	74	2.7
93	●	**WEST ONE BANCORP** Boise, Idaho	5,417.2	18.1	4,044.4	98	3,444.4	88	41.2	66	(3.2)
94	●	**SUMITOMO BANK OF CALIFORNIA** San Francisco[5]	5,281.1	10.1	4,772.0	90	4,433.6	74	42.9	65	(4.6)
95	99	**MERCANTILE BANKSHARES CORP.** Baltimore	5,182.9	6.1	4,273.9	96	3,309.0	89	70.6	49	2.5
96	97	**DEPOSIT GUARANTY CORP.** Jackson, Miss.	5,058.8	2.8	4,075.6	97	2,224.0	95	32.2	73	31.4
97	●	**FIRST COMMERCE CORP.** New Orleans	4,995.5	11.8	4,354.2	94	2,208.5	96	34.0	71	54.4
98	●	**PUGET SOUND BANCORP** Tacoma	4,883.8	6.4	3,768.7	99	3,582.1	83	49.1	63	6.3
99	●	**EUROPEAN AMERICAN BANCORP** Uniondale, N.Y.	4,766.9	(0.3)	4,279.3	95	1,847.0	97	11.3	79	—
100	●	**UNITED MISSOURI BANCSHARES** Kansas City	4,692.1	9.8	3,410.2	100	1,322.9	100	39.5	67	6.3
TOTALS			2,389,944.9		1,738,723.2		1,415,652.2		8,519.8		

[1] Wholly owned by National Westminster Bank (B-13 on last year's Global Service 500).
[2] Company's common stock is 76.4% owned by Bank of Tokyo (B-15 on last year's Global Service 500).
[3] A wholly owned subsidiary of Hongkong & Shanghai Banking Corp. (B-33 on last year's Global Service 500).
[4] Company was No. 33 on last year's Diversified Financial list.
[5] A wholly owned subsidiary of ABN Amro Holding (B-14 on last year's Global Service 500).
[6] A wholly owned subsidiary of Mitsubishi Bank (B-4 on last year's Global Service 500).

STOCK-HOLDERS' EQUITY		MARKET VALUE 4/16/92		PROFITS AS % OF				EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				EMPLOYEES		
				ASSETS		COMMON STOCK-HOLDERS' EQUITY												
$ millions	Rank	$ millions	Rank	%	Rank	%	Rank	1991 $	% change from 1990	1981-91 annual growth rate %	Rank	1991 %	Rank	1981-91 annual rate %	Rank	Number	Rank	RANK 1991
807.0	49	1,186.9	42	0.9	35	12.5	42	2.40	336.4	3.3	50	151.3	6	19.4	43	5,802	50	51
711.6	55	892.8	54	(0.2)	85	(3.6)	80	(0.95)	(160.9)	—		140.4	9	18.3	49	4,697	64	52
522.6	75	969.6	50	0.3	68	6.6	64	1.72	352.6	(6.1)	63	160.9	5	6.0	75	7,172	41	53
759.9	51	728.3	70	0.5	66	6.6	65	3.36	4.7	0.1	59	170.1	4	13.1	61	5,700	52	54
538.5	73	N.A.		(0.8)	91	(19.4)	87	(2.48)	—	—		290.2	1	21.6	30	5,625	53	55
662.0	59	1,026.0	47	0.9	36	13.6	32	2.13	24.3	12.0	16	146.6	7	29.9	5	5,462	56	56
308.6	93	16.6	88	(2.3)	97	(261.3)	93	(13.35)	—	—		(87.8)	88	—		6,143	47	57
566.4	67	564.3	76	0.2	75	3.5	71	0.50	—	(8.8)	68	63.1	50	7.8	72	5,349	58	58
501.3	77	544.6	77	0.1	79	1.9	75	0.60	—	(13.3)	71	50.0	63	8.8	71	5,531	55	59
715.7	54	1,093.5	46	0.8	40	11.2	51	2.17	(0.2)	6.2	41	74.8	45	20.7	36	4,899	61	60
433.8	82	N.A.		0.0	82			N.A.	—	—		—		—		392	100	61
535.8	74	825.1	59	0.7	53	13.0	37	9.32	17.8	17.9	4	85.2	35	29.3	7	3,338	81	62
606.8	61	N.A.		0.8	43			N.A.	—	—		—		—		4,782	62	63
556.7	68	913.7	52	0.8	49	12.6	40	2.89	172.6	—		97.7	21	—		3,905	75	64
672.6	58	1,018.5	48	1.1	15	13.8	28	3.47	5.5	11.0	20	56.0	56	26.4	15	4,610	65	65
879.4	42	2,787.1	20	1.6	2	15.7	9	3.50	14.0	13.5	9	111.5	14	34.4	2	4,159	73	66
631.8	60	756.1	65	0.7	51	10.2	60	2.15	(31.7)	5.0	45	24.5	79	24.5	21	6,860	42	67
689.1	56	N.A.		1.0	22	14.7	14	N.A.	—	—		—		—		2,750	92	68
576.1	64	N.A.		(2.2)	96	(32.6)	90	N.A.	—	—		—		—		3,300	82	69
422.2	84	N.A.		(4.3)	100			N.A.	—	—		—		—		4,900	60	70
546.1	70	731.6	69	0.8	44	12.2	44	3.85	10.0	1.9	54	88.5	30	19.2	44	4,417	70	71
437.6	81	795.6	62	0.8	47	14.6	17	4.04	34.2	8.3	34	94.6	25	21.3	32	4,209	71	72
675.8	57	1,116.4	44	1.3	4	15.1	11	4.50	38.5	11.6	19	97.6	22	28.4	10	6,137	48	73
600.1	62	N.A.		0.5	65			N.A.	—	—		—		—		2,899	89	74
569.2	66	835.5	57	0.8	41	10.5	56	2.64	24.5	1.6	56	82.7	38	13.1	62	4,736†	63	75
429.4	83	834.3	58	0.9	33	14.1	24	2.80	13.2	12.1	14	129.8	12	27.7	11	3,160	85	76
507.3	76	698.0	73	0.9	37	11.8	49	3.17	1.6	19.3	3	44.7	69	21.1	35	3,473	79	77
573.0	65	1,012.1	49	1.2	6	13.7	31	2.38	13.3	6.7	40	75.3	44	21.6	31	4,465	69	78
555.0	69	823.7	60	1.0	23	12.1	45	2.24	0.4	5.8	43	56.6	55	21.1	34	3,786	76	79
462.3	80	782.3	63	0.7	52	10.4	58	2.61	16.5	9.8	27	78.7	41	19.1	46	3,486	78	80
498.3	78	866.1	56	1.3	5	16.4	7	2.55	4.1	14.2	7	45.6	66	28.5	9	2,816	90	81
385.3	87	538.6	79	0.3	71	4.4	67	0.73	—	(8.0)	67	182.4	2	11.8	64	3,126	86	82
486.5	79	714.2	71	1.0	27	12.4	43	2.57	3.2	8.0	35	44.5	70	18.1	50	3,280	83	83
417.1	85	676.1	74	1.0	26	14.7	15	2.70	15.4	22.3	2	109.1	16	30.3	4	3,000	87	84
540.1	72	909.3	53	1.1	8	12.9	38	3.25	6.6	7.3	36	63.5	49	20.5	37	4,574	67	85
199.1	100	120.1	87	(2.8)	98	(83.2)	92	(5.89)	—	—		(57.6)	87	(5.6)	83	3,238	84	86
592.2	63	1,906.4	33	2.5	1	25.2	1	3.00	—	—		—		—		5,883	49	87
328.6	91	707.5	72	0.1	80	1.8	76	0.40	(62.6)	16.5	6	176.5	3	25.4	19	5,336	59	88
338.4	90	514.4	81	(0.7)	89	(12.5)	84	(2.68)	—	—		100.0	20	9.5	69	3,933	74	89
323.1	92	N.A.		0.6	61	10.8	54	N.A.	—	—		—		—		2,744	93	90
205.0	99	170.2	86	(1.1)	94	(31.0)	89	(4.61)	—	—		(50.5)	86	(6.2)	84	2,187	98	91
283.2	96	290.2	83	0.5	63	10.3	59	3.12	2.3	—		47.3	65	—		3,660	77	92
367.0	89	586.6	75	0.8	50	11.2	52	2.93	(12.3)	3.9	49	35.4	76	13.2	60	3,464	80	93
294.9	94	181.7	85	0.8	46	14.5	19	5.20	(4.8)	8.9	30	11.0	82	14.1	59	1,676	99	94
542.1	71	884.8	55	1.4	3	13.0	36	2.34	0.9	9.1	28	43.7	72	25.9	18	2,726	94	95
285.6	95	304.1	82	0.6	60	11.3	50	4.08	31.6	6.2	42	84.0	37	15.0	56	2,527	96	96
250.4	98	528.4	80	0.7	59	13.6	33	2.93	65.5	1.3	58	144.8	8	12.1	63	2,695	95	97
391.1	86	753.6	66	1.0	20	12.6	41	2.75	5.8	11.9	17	55.3	58	20.2	38	2,781	91	98
269.2	97	N.A.		0.2	73			N.A.	—	—		—		—		2,273	97	99
372.7	88	539.9	78	0.8	42	10.6	55	2.86	5.9	4.6	48	55.8	57	17.9	52	2,925†	88	100
146,393.2		186,839.8														1,067,539		

† A majority-owned subsidiary of Sumitomo Bank (8-2 on last year's Global Service 500)

CONTINUED

THE SERVICE 500

THE 50 LARGEST DIVERSIFIED FINANCIAL

RANK BY ASSETS 1991	1990		ASSETS $ millions	ASSETS % change from 1990	REVENUES† $ millions	Rank	REVENUES % change from 1990	PROFITS $ millions	Rank	PROFITS % change from 1990	STOCKHOLDERS' EQUITY $ millions	Rank
1	2	**FED. NATL. MORTGAGE ASSN.** Washington, D.C.	147,072.0	10.5	13,585.0	7	7.7	1,363.0	2	16.2	5,547.0	7
2	1	**AMERICAN EXPRESS** New York	146,411.0	6.3	25,763.0	1	5.9	789.0	6	335.9	7,465.0	3
3	3	**SALOMON** New York	97,402.0	(11.4)	9,175.0	10	2.6	507.0	11	67.3	3,315.0	13
4	4	**AETNA LIFE & CASUALTY** Hartford	91,987.6	3.0	19,195.6	3	(1.2)	505.2	12	(17.7)	7,384.5	4
5	5	**MERRILL LYNCH** New York	86,259.3	26.6	12,362.8	8	10.3	696.1	7	262.8	3,818.1	11
6	7	**AMERICAN INTERNATIONAL GROUP** New York	69,389.5	19.3	15,833.9	5	0.8	1,553.0	1	7.7	11,463.5	1
7	6	**CIGNA** Philadelphia	66,737.0	4.8	18,750.0	4	2.2	449.0	16	36.1	5,863.0	5
8	9	**MORGAN STANLEY GROUP** New York	63,709.1	19.0	6,785.1	12	15.6	475.1	15	75.7	2,993.4	16
9	10	**ITT** New York	53,867.0	9.8	20,421.0	2	(0.9)	817.0	5	(14.7)	9,173.0	2
10	8	**TRAVELERS CORP.** Hartford	52,709.0	(4.8)	11,377.0	9	(6.4)	318.0	19	—	4,590.0	8
11	12	**FEDERAL HOME LOAN MORTGAGE** Reston, Va.	46,860.0	15.5	4,219.0	19	6.4	555.0	9	34.1	2,566.0	17
12	11	**STUDENT LOAN MARKET. ASSN.** Washington, D.C.	45,320.1	10.2	3,257.4	22	(10.0)	345.1	18	14.7	1,149.8	31
13	16	**BEAR STEARNS** New York	39,284.9	24.4	2,380.0	30	(0.3)	142.9	31	19.7	1,072.6	32
14	13	**LOEWS** New York	39,195.4	12.8	13,620.3	6	7.1	904.3	4	12.4	5,667.1	6
15	14	**AMERICAN GENERAL** Houston	36,105.0	6.8	4,395.0	17	(3.2)	480.0	13	(14.6)	4,329.0	9
16	15	**TRANSAMERICA** San Francisco	33,682.3	6.0	6,815.3	11	1.7	80.1	39	(81.2)	3,025.8	15
17	17	**HOUSEHOLD INTERNATIONAL** Prospect Heights, Ill.	29,982.3	1.8	4,593.9	15	6.3	149.8	27	(36.3)	1,774.9	25
18	20	**PAINE WEBBER GROUP** New York	22,621.8	24.6	3,165.9	24	6.3	150.7	26	—	1,050.5	34
19	19	**PRIMERICA** New York	21,560.8	9.5	6,608.2	13	6.7	478.8	14	28.4	3,279.8	14
20	21	**CAPITAL HOLDING** Louisville, Ky.	18,873.0	13.2	2,670.7	29	2.4	250.2	22	50.6	1,930.9	21
21	24	**KEMPER** Long Grove, Ill.	14,696.6	8.2	3,131.1	26	6.3	204.5	24	1,622.1	1,838.5	23
22	23	**USF&G** Baltimore	14,456.0	3.9	4,134.0	20	(10.8)	(176.0)	50	—	1,323.0	28
23	22	**CONTINENTAL** New York	14,047.5	0.9	5,425.4	14	(5.8)	56.4	38	(60.0)	2,099.0	20
24	26	**CHUBB** Warren, N.J.	13,774.7	12.3	4,513.2	16	6.3	552.0	10	5.7	3,541.6	12
25	27	**ST. PAUL** St. Paul	12,982.4	6.4	4,351.7	18	8.3	405.1	17	3.5	2,532.9	18
26	28	**GENERAL RE** Stamford, Conn.	12,415.9	12.5	3,206.6	23	6.7	656.7	8	7.0	3,911.7	10
27	30	**SAFECO** Seattle	11,907.2	12.8	3,148.3	25	3.1	259.6	21	(6.8)	2,221.1	19
28	31	**AON** Chicago	11,633.2	11.5	2,930.9	27	10.9	242.0	23	1.3	1,775.0	24
29	29	**RELIANCE GROUP HOLDINGS** New York	11,252.9	2.2	3,391.9	21	(8.5)	(145.6)	49	(209.1)	219.3	45
30	32	**BENEFICIAL** Wilmington, Del.	9,972.3	7.6	1,125.9	40	(35.9)	148.8	28	14.1	1,250.7	29
31	38	**CHARLES SCHWAB** San Francisco	5,025.9	20.0	795.2	42	27.0	49.5	40	194.8	199.8	47
32	48	**LEUCADIA NATIONAL** New York	4,590.1	90.7	1,086.7	41	59.7	94.8	35	100.3	365.5	44
33	36	**ALLEGHANY** New York	4,539.2	7.4	1,406.6	35	2.1	64.0	37	(6.7)	724.2	39
34	37	**UNITRIN** Chicago	4,271.6	1.9	1,255.3	38	1.4	137.2	32	3.8	1,891.4	22
35	39	**GEICO** Washington, D.C.	4,085.8	14.3	2,147.0	31	10.5	196.4	25	(5.8)	1,184.3	30
36	40	**OLD REPUBLIC INTERNATIONAL** Chicago	3,713.2	11.6	1,374.5	36	10.2	131.0	33	25.2	962.5	36
37	34	**DISCOUNT CORP. OF NEW YORK** New York	3,582.3	(44.6)	266.4	49	(26.9)	(13.6)	47	(450.9)	98.6	49
38	43	**HANOVER INSURANCE** Worcester, Mass.	3,560.4	9.8	1,807.8	32	3.1	48.7	41	(8.4)	834.3	37
39	42	**OHIO CASUALTY** Hamilton	3,531.3	8.6	1,714.2	33	4.3	107.9	34	28.2	774.5	38
40	46	**CINCINNATI FINANCIAL** Fairfield, Ohio	3,436.0	32.7	1,161.1	39	10.4	146.3	29	13.4	1,441.4	27
41	45	**PROGRESSIVE** Mayfield Heights, Ohio	2,979.1	10.6	1,493.1	34	8.5	32.9	43	(64.8)	465.7	41
42	25	**FUND AMERICAN** Norwich, Vt.	2,964.0	(76.2)	232.0	50	(93.4)	1,313.0	3	758.2	1,496.0	26
43	44	**ALEXANDER & ALEXANDER SERVICES** New York	2,767.2	(2.4)	1,369.4	37	1.2	(12.6)	46	(123.0)	374.1	43
44	47	**MARSH & MCLENNAN** New York	2,382.2	(1.2)	2,779.2	28	0.8	305.5	20	0.5	1,035.0	35
45	●	**MBIA** Armonk, N.Y.	2,278.4	12.5	269.0	48	20.3	144.7	30	14.3	1,063.3	33
46	●	**FREMONT GENERAL** Santa Monica, Calif.	1,963.6	(0.9)	581.2	43	1.2	31.2	44	16.2	210.1	46
47	●	**ARGONAUT GROUP** Los Angeles	1,946.2	(1.2)	517.3	45	(15.4)	84.4	36	(5.9)	554.7	40
48	50	**LOMAS FINANCIAL** Dallas	1,798.2	(11.9)	269.9	47	(6.9)	(119.1)	48	—	(602.7)	50
49	●	**ADVANTA** Horsham, Pa.	1,717.5	18.3	311.7	46	22.1	25.2	45	66.7	118.9	48
50	●	**W.R. BERKLEY** Greenwich, Conn.	1,526.0	8.4	541.3	44	0.6	46.6	42	29.0	421.7	42
TOTALS			1,398,825.8		261,712.0			15,996.7			121,785.0	

A Not available.
● Not on last year's list.
** Reflects an extraordinary credit of at least 10%; see the explanations of "profits" and "earnings per share" on page 196.

† Average for the year; see the reference to "employees" on page 196.
As of December 31, 1991, unless otherwise noted. Assets of consolidated subsidiaries are included. Holding companies engaged in commercial banking, savings, or life, health and accident insurance are listed here only when assets of those businesses represent less than 80% of the company's total.
‡ Total revenues during the year, including any consolidated or nonfinancial revenues from manufacturing, retailing, etc., and revenues from discontinued operations when published. All companies on the list

COMPANIES

MARKET VALUE 4/16/92		PROFITS AS % OF . . .						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				EMPLOYEES		RANK 1991
		REVENUES		ASSETS		COMMON STOCK-HOLDERS' EQUITY		1991	% change from 1990	1981-91 annual growth rate		1991		1981-91 annual rate				
$ millions	Rank	%	Rank	%	Rank	%	Rank	$		%	Rank	%	Rank	%	Rank	Number	Rank	
18,153.7	2	10.0	13	0.9	32	24.6	6	5.33	18.4	—		97.6	8	39.4	1	2,600	39	1
10,859.8	3	3.1	38	0.5	40	11.0	33	1.59	367.6	1.3	28	3.6	47	10.0	30	110,728	1	2
3,367.7	17	5.5	32	0.5	41	13.7	25	3.90	87.5	6.3	21	28.7	30	11.4	28	8,972	23	3
4,760.3	12	2.6	41	0.5	39	6.8	41	4.59	(16.8)	(2.2)	29	20.6	38	6.1	35	48,300	3	4
5,070.8	11	5.6	31	0.8	33	18.8	9	6.02	278.6	8.9	16	192.5	4	17.1	21	38,300	4	5
18,417.4	1	9.8	14	2.2	15	13.6	27	7.28	5.2	13.6	6	28.7	31	17.5	18	32,000	5	6
3,816.3	15	2.4	42	0.7	36	7.7	38	6.28	44.0	(3.9)	31	60.0	19	7.8	33	5,500	33	7
3,553.2	16	7.0	25	0.7	35	18.7	10	5.95	76.3	—		138.8	7	—		7,053	29	8
7,494.6	5	4.0	36	1.5	21	8.9	35	6.42	(11.8)	3.4	26	24.2	34	11.4	27	110,000	2	9
2,161.9	25	2.8	39	0.6	38	6.5	42	2.97	—	(3.5)	30	40.3	24	6.3	34	32,000	6	10
7,202.4	7	13.2	6	1.2	29	21.6	7	3.08	33.9	—		188.0	5	—		2,478	41	11
6,141.4	8	10.6	12	0.8	34	35.7	2	3.55	19.9	32.9	2	62.3	17	—		3,423	38	12
1,710.0	29	6.0	30	0.4	44	13.9	24	1.37	37.3	—		92.6	9	—		5,612	31	13
7,439.1	6	6.6	26	2.3	14	16.0	14	13.14	19.3	17.4	3	12.7	42	26.9	4	26,800	7	14
4,638.9	13	10.9	11	1.3	27	11.1	31	4.25	(9.4)	7.1	20	52.3	22	17.5	19	11,386	18	15
3,339.0	18	0.7	45	0.1	45	1.4	45	0.50	(84.8)	(17.6)	33	29.3	29	12.1	26	15,000	12	16
1,879.5	27	3.3	37	0.5	42	8.4	37	3.15	(47.9)	1.7	27	64.1	16	21.2	12	14,236	14	17
846.5	39	4.8	34	0.7	37	17.9	11	3.15	—	16.6	4	161.9	6	11.2	29	12,900	15	18
4,304.3	14	7.2	24	2.2	16	14.6	21	4.27	30.6	—		74.5	12	—		23,000 †	9	19
2,630.5	23	9.4	16	1.3	28	14.6	22	5.33	57.2	12.1	11	66.6	14	22.9	8	8,000	26	20
1,345.0	32	6.5	27	1.4	25	11.1	30	4.25	1,600.0	7.2	18	65.0	15	17.1	22	9,100	21	21
853.3	38	(4.3)	47	(1.2)	48	(24.5)	48	(2.53)	—	—		1.3	48	(2.5)	37	9,081	22	22
1,496.1	31	1.0	44	0.4	43	2.5	44	0.98	(61.3)	(13.7)	32	22.3	36	8.7	32	14,306	13	23
5,998.7	9	12.2	8	4.0	8	15.8	15	6.32	4.1	12.9	8	45.2	23	27.0	3	10,100	20	24
2,976.5	20	9.3	17	3.1	11	15.8	16	9.35	9.1	10.5	13	20.9	37	16.6	23	12,209	17	25
7,902.3	4	20.5	3	5.3	4	16.6	12	7.46	8.3	13.7	5	11.5	43	19.9	14	2,513	40	26
2,745.2	22	8.2	22	2.2	17	11.7	29	4.14	(6.1)	10.9	12	53.8	21	22.2	9	8,424	24	27
2,863.8	21	8.3	21	2.1	18	14.8	19	3.71	2.8	7.2	19	19.0	40	18.5	16	18,100	10	28
335.5	47	(4.3)	48	(1.3)	49	(66.4)	49	(1.97)	(210.1)	—		(5.3)	49	—		12,500.	16	29
1,607.5	30	13.2	5	1.5	22	12.6	28	5.80	3.4	—		56.3	20	18.8	15	8,100	25	30
1,079.2	33	6.2	29	1.0	31	24.8	5	1.27	207.3	—		303.6	1	—		3,800	37	31
555.9	45	8.7	19	2.1	19	25.9	4	8.00	105.1	34.8	1	62.1	18	32.6	2	5,332	34	32
811.9	40	4.6	35	1.4	24	8.8	36	10.01	(4.0)	5.9	22	33.0	27	21.6	10	10,124	19	33
1,722.5	28	10.9	10	3.2	10	7.3	40	2.58	7.5	—		19.1	39	—		7,500	27	34
3,254.0	19	9.1	18	4.8	5	16.6	13	13.48	(1.2)	12.9	9	24.2	33	23.4	7	7,322	28	35
949.6	36	9.5	15	3.5	9	14.7	20	4.95	22.9	9.0	15	75.0	11	17.4	20	4,900	36	36
73.4	50	(5.1)	49	(0.4)	46	(13.8)	47	(1.67)	(447.9)	—		9.5	44	12.5	25	389	49	37
766.0	42	2.7	40	1.4	26	5.8	43	2.36	(8.5)	3.5	25	36.9	25	17.8	17	5,530	32	38
956.7	35	6.3	28	3.1	12	13.9	23	6.02	37.4	6.2	22	27.4	32	14.6	24	5,093	35	39
2,169.3	24	12.6	7	4.3	7	9.8	34	8.81	12.5	13.2	7	31.4	28	24.6	6	1,905	44	40
1,037.8	34	2.2	43	1.1	30	7.4	39	1.22	(68.2)	8.8	17	6.4	46	24.7	5	6,918	30	41
901.5	37	565.9	1	44.3	1	111.4	1	67.14	2,079.9	—		36.2	26	—		1,718	45	42
768.5	41	(0.9)	46	(0.5)	47	(3.4)	46	(0.31)	(123.0)	—		(7.3)	50	2.3	36	15,600	11	43
5,385.0	10	11.0	9	12.8	2	29.5	3	4.18	0.7	9.8	14	7.9	45	21.2	13	23,400	8	44
2,066.5	26	53.8	2	6.4	3	13.6	26	3.74	12.3	—		74.0	13	—		292	50	45
169.1	49	5.4	33	1.6	20	14.8	18	3.76	15.7	5.0	24	75.4	10	9.8	31	1,468	46	46
714.5	43	16.3	4	4.3	6	15.2	17	3.16	(2.9)	—		14.1	41	—		750	48	47
206.0	48	(44.1)	50	(6.6)	50	—		(3.49)	—	—		211.4	3	(14.5)	38	2,123	42	48
501.0	46	8.1	23	1.5	23	21.2	8	2.42	51.2	—		248.1	2	—		1,082	47	49
593.3	44	8.6	20	3.1	13	11.0	32	2.61	28.4	12.3	10	23.4	35	21.6	11	2,000	43	50
170,592.9																729,982		

must have derived more than 50% of their revenues from financial businesses and have a widely held and actively traded stock.
† Figures are for fiscal year ended June 30, 1991

CONTINUED

THE SERVICE 500

THE 50 LARGEST SAVINGS INSTITUTIONS

RANK BY ASSETS 1991	1990		ASSETS[1] $ millions	ASSETS % change from 1990	DEPOSITS $ millions	DEPOSITS Rank	LOANS[1] $ millions	LOANS Rank	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990
1	1	**H.F. AHMANSON** Los Angeles	47,226.2	(7.8)	39,147.1	1	42,318.0	1	245.8	2	28.7
2	2	**GREAT WESTERN FINANCIAL CORP.** Beverly Hills	39,599.6	0.5	30,570.4	2	35,115.7	2	298.1	1	54.4
3	5	**GOLDEN WEST FINANCIAL CORP.** Oakland	24,297.8	7.7	16,818.5	3	22,087.6	3	238.6	3	31.5
4	3	**GLENFED** Glendale, Calif.[2]	21,501.1	(15.5)	15,864.8	4	18,034.4	4	(231.7)	48	(297.6)
5	4	**CALFED** Los Angeles	18,395.4	(24.9)	14,827.7	5	14,974.8	5	(139.1)	45	—
6	6	**HOMEFED CORP.** San Diego	13,885.2	(24.0)	10,211.5	6	10,606.1	6	(807.7)	50	—
7	9	**DIME SAVINGS BANK OF NEW YORK** New York	9,898.1	(8.7)	8,236.9	7	8,374.8	7	(237.4)	49	—
8	13	**STANDARD FEDERAL BANK** Troy, Mich.	9,513.9	2.3	6,188.5	10	7,962.4	8	65.8	7	64.2
9	10	**FIRSTFED MICHIGAN CORP.** Detroit	9,415.2	(11.8)	3,778.2	18	7,686.8	9	34.0	11	269.6
10	12	**COAST SAVINGS FINANCIAL** Los Angeles	8,595.7	(15.9)	7,100.1	8	7,469.4	10	41.7	10	1,349.9
11	14	**ANCHOR BANCORP** Hewlett, N.Y.[2,3]	8,415.4	(8.0)	6,706.2	9	6,914.4	11	65.8**	8	—
12	16	**WASHINGTON MUTUAL SAVINGS BANK** Seattle	7,117.8	2.8	4,801.8	12	6,301.7	12	67.5	6	7,197.7
13	15	**PEOPLE'S BANK** Bridgeport, Conn.	5,989.2	(13.5)	5,198.1	11	4,729.0	13	(90.9)	44	—
14	17	**MERITOR SAVINGS BANK** Philadelphia	5,974.6	(8.4)	4,556.6	13	4,403.2	15	(60.7)**	40	—
15	35	**AMBASE** Morristown, N.J.	5,257.0	(16.8)	2,935.0	27	3,862.0	19	(145.0)**	46	—
16	18	**TALMAN HOME FED. S&L ASSN. OF ILL.** Chicago	5,140.2	(12.7)	4,274.4	14	3,636.8	21	75.4	4	471.1
17	19	**CITADEL HOLDING CORP.** Glendale, Calif.	5,126.5	(10.0)	3,884.7	16	4,583.5	14	2.7	31	(88.6)
18	20	**COMMERCIAL FEDERAL CORP.** Omaha[2]	5,077.9	(9.6)	2,249.2	35	3,687.7	20	20.8**	18	—
19	24	**METROPOLITAN FINANCIAL CORP.** Minneapolis	4,667.7	2.7	3,824.1	17	4,151.8	16	57.4	9	102.7
20	21	**NORTHEAST FEDERAL CORP.** Hartford[4,5]	4,558.2	(8.4)	3,406.5	20	3,957.1	18	11.7**	26	—
21	28	**CSF HOLDINGS** Miami[2]	4,384.5	3.7	3,465.1	19	3,962.8	17	14.6**	25	(20.3)
22	25	**HOWARD SAVINGS BANK** Newark, N.J.	4,067.1	(7.9)	3,956.4	15	3,082.7	27	(33.1)	37	—
23	29	**TCF FINANCIAL CORP.** Minneapolis	4,036.8	(3.6)	3,231.8	22	3,370.7	22	19.0**	20	—
24	27	**ROCHESTER COMMUN. SAV.** Rochester, N.Y.[2]	3,962.7	(8.2)	2,844.4	28	3,165.5	24	(30.9)	36	(493.6)
25	30	**DOWNEY S&L ASSN.** Newport Beach, Calif.	3,778.1	(9.3)	3,355.5	21	2,924.9	31	24.9	16	(40.7)
26	41	**CHARTER ONE FINANCIAL** Cleveland	3,665.8	19.4	3,187.5	23	3,238.8	23	33.5	12	—
27	37	**ST. PAUL BANCORP** Chicago	3,663.2	7.2	3,004.4	25	3,163.3	25	27.2	14	—
28	36	**FARM & HOME FINANCIAL CORP.** Kansas City, Mo.	3,637.9	5.6	2,828.3	29	3,133.9	26	17.4	23	299.6
29	31	**AMERICAN SAVINGS BANK** White Plains, N.Y.	3,453.6	(13.9)	3,116.8	24	2,935.1	30	(160.1)	47	—
30	26	**AMERICAN SAVINGS OF FLORIDA** Miami[2]	3,373.3	(23.3)	2,467.5	30	2,180.0	42	19.7**	19	—
31	39	**SFFED CORP.** San Francisco	3,317.5	(1.4)	2,440.1	31	3,001.5	28	14.7	24	622.3
32	44	**FIRSTFED FINANCIAL** Santa Monica, Calif.	3,287.1	7.7	1,740.1	45	2,995.8	29	28.4	13	5.1
33	40	**FIRST FINANCIAL CORP.** Stevens Point, Wis.	3,220.0	2.5	2,935.6	26	2,885.2	32	18.5	21	15.6
34	32	**SOCIETY FOR SAVINGS** Hartford	2,989.0	(21.9)	2,269.8	34	2,674.6	33	(64.5)	41	—
35	38	**GREAT LAKES BANCORP** Ann Arbor, Mich.	2,887.0	(14.9)	1,855.9	42	2,573.7	34	2.2**	32	—
36	43	**GREATER NEW YORK SAVINGS BANK** New York	2,847.7	(6.7)	2,277.7	33	1,725.2	47	(57.9)	39	—
37	42	**FORTUNE BANCORP** Clearwater, Fla.[3,10]	2,788.1	(9.0)	2,318.4	32	2,453.1	36	(11.7)	34	—
38	●	**WASHINGTON FEDERAL S&L ASSN.** Seattle[2]	2,785.1	5.1	1,708.6	46	2,435.4	37	69.3	5	10.3
39	46	**BAY VIEW CAPITAL CORP.** San Mateo, Calif.	2,709.5	(4.7)	1,562.1	49	2,490.8	35	9.0	27	31.9
40	45	**WESTCORP** Irvine, Calif.	2,689.0	(9.4)	1,814.9	44	2,264.4	38	21.1	17	80.3
41	●	**CRAGIN FINANCIAL CORP.** Chicago	2,650.1	8.3	2,114.9	37	2,182.1	41	26.4	15	197.8
42	50	**UNICORP AMERICAN CORP.** New York	2,564.9	(4.5)	2,246.3	36	1,753.0	46	(49.9)	38	—
43	●	**DFSOUTHEASTERN** Decatur, Ga.	2,559.6	0.7	2,028.9	40	2,222.8	40	3.5	30	—
44	47	**WESTERN CAPITAL INVESTMENT** Denver	2,523.7	(7.3)	2,079.7	39	1,970.5	43	5.9	29	—
45	●	**COLLECTIVE BANCORP** Egg Harbor, N.J.[3]	2,505.4	7.7	1,976.4	41	2,248.9	39	17.8	22	96.9
46	48	**PEOPLES HERITAGE FINAN. GROUP** Portland, Me.	2,498.7	(7.4)	2,088.4	38	1,815.5	44	(21.3)	35	—
47	33	**OLD STONE CORP.** Providence	2,173.5	(40.8)	1,843.2	43	1,583.6	49	(78.9)	43	(2,775.9)
48	●	**UNIONFED FINANCIAL** Brea, Calif.[2]	2,152.8	(13.3)	1,565.3	48	1,686.1	48	(64.7)	42	—
49	●	**ROOSEVELT FINANCIAL GROUP** St. Louis	2,119.9	(10.8)	1,356.0	50	1,463.9	50	(8.0)	33	(927.4)
50	●	**FIRST SAVINGS BANK** Greenville, S.C.[2]	2,076.4	(11.4)	1,641.9	47	1,755.3	45	8.4	28	109.7
TOTALS			351,020.6		265,904.3		296,196.4		(686.6)		

N.A. Not available.
● Not on last year's list.
** Reflects an extraordinary credit of at least 10%; see the explanations of "profits" and "earnings per share" on page 196.

[1] As of December 31, 1991, unless otherwise noted. All companies on the list must have derived more than 50% of their consolidated revenues from chartered thrift institutions and must have a widely held (and actively traded) stock.
[2] Figures are for fiscal year ended June 30, 1991.
[3] Name changed from Anchor Savings Bank (No. 14 on last year's list).
[4] Figures are for fiscal year ended March 31, 1991.

STOCK-HOLDERS' EQUITY $ millions	Rank	MARKET VALUE 4/16/92 $ millions	Rank	PROFITS AS % OF ASSETS %	Rank	PROFITS AS % OF COMMON STOCK-HOLDERS' EQUITY %	Rank	EARNINGS PER SHARE 1991 $	% change from 1990	1981-91 annual growth rate %	Rank	TOTAL RETURN TO INVESTORS 1991 %	Rank	1981-91 annual rate %	Rank	EMPLOYEES Number	Rank	RANK 1991
2,656.4	1	1,952.6	3	0.5	18	9.7	20	2.06	25.6	—		35.4	27	18.3	5	10,292	2	1
2,321.1	2	2,207.0	2	0.8	11	13.3	10	2.25	50.0	—		54.6	23	16.6	6	14,786	1	2
1,449.1	3	2,476.5	1	1.0	5	16.5	6	3.76	31.0	—		78.1	17	33.2	1	3,046	6	3
871.8	5	132.6	20	(1.1)	40	(26.6)	38	(6.79)	(279.2)	—		(27.5)	41	—		4,010	3	4
1,006.3	4	70.5	31	(0.8)	35	(13.8)	37	(5.43)	—	—		(48.1)	44	—		3,801	4	5
13.6	47	6.7	46	(5.8)	50	(5,944.9)	47	(37.39)	—	—		(93.7)	47	—		3,144	5	6
256.9	18	89.7	27	(2.4)	45	(92.4)	45	(10.27)	—	—		42.1	26	—		2,345	9	7
524.8	7	614.9	6	0.7	14	12.5	14	2.11	62.3	—		143.7	10	—		2,196	11	8
472.8	8	188.1	15	0.4	25	7.2	26	3.05	267.5	—		28.5	29	—		1,389	19	9
278.6	16	182.0	17	0.5	19	15.0	7	2.68	1,310.5	—		215.8	3	—		1,717	14	10
352.9	11	91.8	26	0.8	10	26.8	1	3.00**	—	—		392.0	1	—		1,632	15	11
559.7	6	642.1	5	0.9	6	12.6	12	2.52	—	—		184.5	5	—		2,356	8	12
299.6	13	183.4	16	(1.5)	41	(30.3)	39	(2.79)	—	—		(34.8)	42	—		2,246	10	13
146.2	35	27.3	42	(1.0)	39	(41.5)	41	(1.45)**	—	—		22.2	30	—		1,363	20	14
(77.0)	50	19.8	43	(2.8)	46	—		(3.80)**	—	—		19.8	31	—		1,300	21	15
420.1	9	N.A.		1.5	2	17.9	4	7.77	471.3	—		178.6	7	—		1,754	13	16
221.1	20	92.8	25	0.1	32	1.2	31	0.81	(88.5)	—		(6.9)	36	—		815	34	17
165.6	27	68.5	32	0.4	23	12.6	13	2.88**	—	—		134.2	12	—		880	31	18
278.8	15	205.6	11	1.2	3	23.4	2	5.32	86.1	—		183.2	6	—		1,790	12	19
182.0	24	33.6	39	0.3	28	3.6	29	0.52**	—	—		33.3	28	—		679	32	20
151.0	32	46.4	36	0.3	26	8.5	23	4.11**	(5.7)	—		83.9	15	19.6	4	881	30	21
91.8	43	16.2	44	(0.8)	37	(36.1)	40	(2.31)	—	—		(22.2)	39	—		1,529	17	22
172.9	26	203.9	12	0.5	21	11.0	17	2.47**	—	—		161.1	8	—		2,500	7	23
289.2	14	95.0	24	(0.8)	36	(10.7)	35	(2.24)	(493.0)	—		(11.1)	37	—		1,579	16	24
276.8	17	234.4	7	0.7	15	9.0	21	1.54	(40.8)	—		(3.9)	35	26.1	2	935	28	25
187.8	23	192.6	14	0.9	7	17.8	5	4.64	—	—		129.9	13	—		1,210	22	26
252.9	19	194.2	13	0.7	12	10.8	18	2.26	—	—		65.7	20	—		868	33	27
164.1	29	101.8	23	0.5	20	9.9	19	2.95	—	—		153.8	9	—		707	38	28
(63.8)	49	N.A.		(4.6)	49	—		(27.35)	—	—		(85.2)	46	—		777	37	29
132.6	37	N.A.		0.6	16	14.9	9	0.35**	—	—		N.A.		—		631	41	30
178.8	25	87.1	29	0.4	22	8.2	24	1.89	626.9	—		63.0	21	—		653	39	31
190.2	21	210.7	9	0.9	8	14.9	8	2.61	4.0	—		70.8	19	—		395	49	32
164.5	28	168.9	19	0.6	17	11.3	16	3.21	15.1	27.7	1	119.0	14	22.9	3	1,099	24	33
149.4	33	121.5	21	(2.2)	44	(43.2)	42	(5.42)	—	—		9.9	32	—		1,182	23	34
149.3	34	86.9	34	0.1	31	(0.5)	32	(0.13)**	—	—		9.2	33	—		979	26	35
129.2	38	30.1	41	(2.0)	43	(55.9)	43	(4.72)	—	—		(46.7)	43	—		512	44	36
121.6	40	56.7	35	(0.4)	34	(9.6)	34	(2.40)	—	—		5.0	34	—		637	40	37
368.4	10	878.2	4	2.5	1	18.8	3	3.16	10.1	—		61.1	22	—		414	46	38
189.7	22	113.7	22	0.3	27	4.7	28	1.31	24.8	—		53.8	24	—		340	50	39
160.3	30	209.1	10	0.8	9	13.1	11	1.20	77.5	—		139.6	11	—		904	29	40
302.4	12	233.0	8	1.0	4	8.7	22	2.43	—	—		N.A.		—		552	43	41
(35.7)	48	N.A.		(1.9)	42	—		(2.94)	—	—		—		—		504	45	42
124.3	39	89.1	33	0.1	30	2.8	30	0.77	—	—		51.3	25	—		812	35	43
120.9	41	87.6	28	0.2	29	4.9	27	0.61	—	—		212.5	4	—		809	36	44
144.3	36	169.8	18	0.7	13	12.4	15	2.04	96.2	—		217.3	2	—		576	42	45
154.9	31	43.3	37	(0.9)	38	(13.7)	36	(2.58)	—	—		(12.5)	38	—		1,069	25	46
35.3	46	33.4	40	(3.6)	48	(568.5)	46	(9.77)	(32,666.7)	—		(26.0)	40	(8.0)	7	962	27	47
71.3	45	10.4	45	(3.0)	47	(90.7)	44	(8.68)	—	—		(54.2)	45	—		400	48	48
90.3	44	74.2	30	(0.4)	33	(8.8)	33	(1.48)	(970.6)	—		80.3	16	—		403	47	49
104.1	42	40.8	38	0.4	24	8.1	25	1.62	109.7	—		72.9	18	—		1,400	18	50
16,969.1		13,054.3														87,957		

[1] Name changed from Northeast Savings (No. 21 on last year's list)
[2] Name changed from Citizens Savings Financial Corp. (No. 28 on last year's list)
[3] Figures are for fiscal year ended November 30, 1991
[4] Name changed from American Savings & Loan Association of Florida (No. 26 on last year's list)
[5] Figures are for fiscal year ended September 30, 1991
[6] Name changed from Fortune Financial Group (No. 42 on last year's list)

CONTINUED

THE SERVICE 500

THE 50 LARGEST LIFE INSURANCE COMPANIES

RANK BY ASSETS 1991	1990		ASSETS[1] $ millions	% change from 1990	PREMIUM AND ANNUITY INCOME[2] $ millions	Rank	NET INVESTMENT INCOME $ millions	Rank	NET GAIN FROM OPERATIONS[3] $ millions	Mutual rank	Stock rank
1	1	**PRUDENTIAL OF AMERICA** * Newark, N.J.	148,417.6	11.2	24,861.9	1	8,977.9	1	851.7	1	
2	2	**METROPOLITAN LIFE** * New York	110,799.5	7.3	19,458.4	2	7,584.5	2	63.7	11	
3	5	**TEACHERS INSURANCE & ANNUITY** New York	55,575.8	11.4	3,233.6	18	4,706.6	3	231.5		4
4	3	**AETNA LIFE** Hartford*	52,355.0	0.0	8,045.3	3	3,409.1	4	349.9		2
5	4	**EQUITABLE LIFE ASSURANCE** * New York	50,352.8	0.1	3,452.5	17	2,451.0	9	104.3	8	
6	6	**NEW YORK LIFE** * New York	42,749.5	7.2	7,646.1	4	3,299.1	5	157.3	6	
7	7	**CONNECTICUT GENERAL LIFE** Bloomfield, Conn.*	41,692.3	11.5	4,724.0	9	2,403.1	10	382.8		1
8	8	**JOHN HANCOCK MUTUAL LIFE** * Boston	36,220.2	7.3	5,947.0	7	2,601.7	6	202.6	4	
9	10	**NORTHWESTERN MUTUAL LIFE** * Milwaukee	35,743.8	13.9	4,678.2	10	2,536.9	8	227.6	3	
10	9	**TRAVELERS** Hartford[11]	35,662.7	8.0	7,626.0	5	2,577.0	7	273.7		3
11	11	**PRINCIPAL MUTUAL LIFE** * Des Moines	31,499.4	14.4	7,333.3	6	2,252.2	11	276.1	2	
12	12	**MASSACHUSETTS MUTUAL LIFE** * Springfield, Mass.	29,290.6	7.6	4,423.0	12	2,105.0	12	178.5	5	
13	13	**LINCOLN NATIONAL LIFE** Fort Wayne	23,530.7	25.2	5,326.0	8	1,342.2	14	127.9		8
14	16	**IDS LIFE** Minneapolis[11]	19,508.7	25.2	2,594.4	21	1,264.5	15	153.5		6
15	17	**ALLSTATE LIFE** Northbrook, Ill.[11]	17,933.9	21.0	3,886.1	13	1,494.8	13	142.7		7
16	14	**MUTUAL OF NEW YORK** * New York	17,493.5	(2.8)	2,238.3	22	1,184.9	16	75.1	10	
17	15	**NEW ENGLAND MUTUAL LIFE** * Boston	16,947.8	(1.0)	2,179.9	23	939.7	21	(36.7)	19	
18	22	**HARTFORD LIFE** Hartford*	16,263.2	40.0	4,560.4	11	752.9	26	62.0		19
19	20	**NATIONWIDE LIFE** Columbus, Ohio	15,977.3	29.5	3,468.3	16	906.1	22	18.5		30
20	19	**VARIABLE ANNUITY LIFE** Houston[11]	14,766.5	18.5	1,645.1	29	1,176.4	17	85.6		14
21	21	**STATE FARM LIFE** Bloomington, Ill.	13,651.7	12.5	1,928.5	26	1,136.0	19	112.7		9
22	25	**JACKSON NATIONAL LIFE** Lansing, Mich.	13,601.8	28.3	2,869.5	19	1,147.7	18	105.0		11
23	23	**AETNA LIFE & ANNUITY** Hartford*	13,442.1	19.3	1,912.3	27	726.1	29	94.6		13
24	26	**NEW YORK LIFE & ANNUITY** Wilmington, Del.	11,613.4	10.5	1,025.4	41	970.0	20	106.3		10
25	24	**CONNECTICUT MUTUAL LIFE** * Hartford	11,111.6	(0.2)	1,247.1	33	793.1	24	41.7	14	
26	28	**CONTINENTAL ASSURANCE** Chicago*	10,943.7	10.6	3,618.8	14	248.7	49	56.2		22
27	29	**PACIFIC MUTUAL LIFE** * Newport Beach, Calif.	10,650.0	8.9	1,173.5	37	829.6	23	63.0	12	
28	30	**EQUITABLE VARIABLE LIFE** New York	10,103.4	6.1	608.1	47	618.5	32	(109.8)		31
29	31	**TRANSAMERICA LIFE & ANNUITY** Los Angeles*	9,077.4	7.6	1,166.5	39	768.7	25	61.6		20
30	33	**TRANSAMERICA OCCIDENTAL LIFE** Los Angeles[11]	8,621.3	12.5	1,178.2	36	734.5	28	80.9		15
31	●	**UNUM LIFE** Portland, Me.	8,572.5	91.1	1,857.1	28	673.5	31	96.3		12
32	34	**KEYPORT LIFE** Boston[14]	8,512.7	16.0	895.8	43	679.1	30	46.2		25
33	35	**AMERICAN FAMILY LIFE ASSURANCE** Columbus, Ga.	8,475.9	29.7	2,768.1	20	434.3	45	159.5		5
34	32	**PROVIDENT NATIONAL ASSURANCE** Chattanooga	8,219.6	3.9	1,576.8	30	750.9	27	48.7		24
35	38	**AMERICAN LIFE** Wilmington, Del.[14]	7,266.4	18.9	2,072.1	25	319.4	48	67.1		18
36	37	**GUARDIAN LIFE OF AMERICA** * New York	6,793.6	10.3	3,585.9	15	509.2	35	124.5	7	
37	40	**KEMPER INVESTORS LIFE** Chicago[11]	6,696.0	10.3	679.2	45	489.8	37	44.4		26
38	41	**GENERAL AMERICAN LIFE** * St. Louis	6,672.0	10.2	1,172.6	38	471.5	38	38.6	15	
39	36	**PHOENIX MUTUAL LIFE** * Hartford	6,629.5	3.7	1,094.4	40	365.6	46	47.2	13	
40	39	**STATE MUTUAL OF AMERICA** * Worcester, Mass.	6,584.2	7.9	1,520.8	31	503.4	36	81.0	9	
41	45	**SAFECO LIFE INSURANCE** Redmond, Wash.*	6,431.3	19.7	1,320.8	32	557.0	33	58.4		21
42	48	**SUN LIFE ASSUR. OF CANADA (U.S.)** Wellesley Hills, Mass.	6,385.5	24.8	(211.7)	50	174.7	50	19.0		29
43	44	**MINNESOTA MUTUAL LIFE** * St. Paul	6,177.3	13.3	1,227.3	34	459.1	41	28.7	16	
44	46	**NATIONAL HOME LIFE** Frazer, Pa.	6,138.2	15.2	1,203.9	35	452.9	43	68.0		17
45	42	**PENN MUTUAL LIFE** * Philadelphia	6,086.0	5.7	643.5	46	455.9	42	9.1	18	
46	50	**PROVIDENT LIFE & ACCIDENT** Chattanooga	5,826.3	18.3	2,124.0	24	446.4	44	37.5		27
47	47	**SUN LIFE OF AMERICA** Los Angeles	5,585.9	7.5	898.6	42	464.4	40	52.8		23
48	●	**LIFE INSURANCE CO. OF VIRGINIA** Richmond	5,457.9	13.3	840.4	44	467.9	39	75.4		16
49	43	**UNITED PACIFIC LIFE** Federal Way, Wash.[11]	5,432.1	(2.1)	417.9	49	525.2	34	29.0		28
50	49	**MUTUAL OF AMERICA LIFE** * New York	5,401.5	8.9	468.9	48	340.1	47	18.5	17	
TOTALS			1,058,941.6		170,212.0		71,478.5		5,690.5		

N.A. Not available.
● Not on last year's list.
* Indicates a mutual company.
[1] As of December 31, 1991.
[2] Includes premium income from life, accident, and health policies, annuities, and contributions to deposit administration funds.
[3] After dividends to policyholders and federal income taxes, excluding realized capital gains and losses. Figures in parentheses indicate a loss.
[4] After dividends to policyholders and federal income taxes, including realized capital gains and losses. Figures in parentheses indicate a loss.
[5] Face value of all life policies, including variable life insurance, as of December 31, 1991.
[6] Changes between December 31, 1990, and December 31, 1991.

NET INCOME[1]				NET INCOME AS % OF ASSETS		LIFE INSURANCE IN FORCE[1]		INCREASE IN LIFE INSURANCE IN FORCE[1]				EMPLOYEES[1]		
$ millions	Mutual rank	Stock rank	% change from 1990	%	Rank	$ millions	Rank	$ millions	Rank	%	Rank	Number	Rank	RANK 1991
1,386.7	1		590.6	0.9	16	820,708.7	2	38,551.3	3	4.9	24	69,189	1	1
237.0	5		(34.1)	0.2	46	948,020.9	1	117,052.9	1	14.1	6	50,033	2	2
331.6		2	(13.8)	0.6	32	29,804.4	35	3,131.0	26	11.7	10	3,684	28	3
310.3		3	(27.4)	0.6	33	311,108.9	5	15,576.0	9	5.3	22	29,500	4	4
75.5	13		—	0.1	47	308,211.5	6	2,512.7	30	—		20,987	5	5
221.3	6		1.1	0.5	39	311,532.2	4	29,409.7	5	10.4	13	18,848	7	6
453.5		1	85.4	1.1	11	421,375.7	3	84,680.8	2	25.2	1	12,900	13	7
209.0	7		1.4	0.6	34	246,162.0	9	33,912.6	4	16.0	4	14,240	12	8
538.5	2		275.0	1.5	4	251,128.8	8	25,882.2	6	11.5	11	9,142	17	9
191.7		5	23.3	0.5	37	214,870.8	10	10,769.9	16	5.3	21	32,000	3	10
330.2	3		41.4	1.0	13	121,750.9	16	12,176.7	15	11.1	12	11,999	14	11
176.8	9		81.8	0.6	31	122,934.3	15	6,105.2	20	5.2	23	9,933	15	12
210.8		4	502.1	0.9	17	145,553.8	13	3,281.2	25	—		4,063	27	13
174.6		6	40.2	0.9	18	33,951.4	32	2,999.2	27	9.7	14	7,403	19	14
139.6		8	(7.0)	0.8	24	101,992.7	20	13,215.6	14	14.9	5	18,150	9	15
260.1	4		83.2	1.5	5	70,357.7	26	(5,807.8)	48	—		7,252	20	16
48.0	16		25.4	0.3	42	86,809.4	22	3,628.4	24	4.6	25	6,600	22	17
92.6		15	86.9	0.6	35	36,803.2	31	4,029.5	22	12.3	8	2,658	35	18
20.3		28	401.6	0.1	48	27,112.4	37	1,935.5	32	7.7	18	5,090	18	19
89.4		17	67.6	0.6	30	1.9	49	(.1)	39	—		1,677	37	20
104.8		11	(20.3)	0.8	25	196,987.6	11	20,769.1	7	11.8	9	19,811	6	21
89.0		18	27.3	0.7	29	130,991.3	14	15,305.4	10	13.2	7	1,270	40	22
96.8		13	77.6	0.7	27	32,834.3	33	(503.3)	46	—		2,801	34	23
91.2		16	(5.3)	0.8	23	43,577.8	30	1,315.9	34	—		18,848	8	24
24.1	19		(16.8)	0.2	45	68,192.1	27	2,700.5	29	4.1	27	5,550	24	25
96.0		14	(4.7)	0.9	19	97,352.7	21	9,129.7	17	—		17,800	11	26
77.8	12		146.2	0.7	26	31,235.5	34	777.3	36	2.6	30	4,227	26	27
(143.5)		31	(345.9)	(1.4)	50	108,166.6	18	4,634.3	21	4.5	26	N.A.		28
123.1		9	91.3	1.4	6	207.0	47	(26.1)	42	—		885	42	29
106.3		10	88.1	1.2	9	260,904.4	7	14,099.3	13	5.7	20	3,339	31	30
101.7		12	195.7	1.2	10	65,773.4	28	16,705.7	8	—		5,500	25	31
69.1		21	90.3	0.8	21	2,823.6	43	(10.5)	41	—		260	46	32
164.2		7	49.9	1.9	2	9,782.7	40	1,590.9	33	19.4	3	9,413	16	33
21.5		27	—	0.3	43	.0		.0		—		62	49	34
74.3		20	118.8	1.0	14	75,434.8	25	14,724.9	11	24.3	2	17,993	10	35
182.8	8		(21.7)	2.7	1	108,565.5	17	7,821.1	18	7.8	17	7,175	21	36
4.1		30	(84.5)	0.1	49	1,847.8	45	(34.3)	43	—		385	45	37
53.6	15		72.6	0.8	22	175,808.7	12	14,723.4	12	9.1	16	3,589	29	38
56.9	14		12.5	0.9	20	79,212.0	23	2,968.2	28	3.9	28	3,209	32	39
86.3	11		49.5	1.3	7	14,643.4	39	(17,001.6)	50	—		3,534	30	40
43.7		24	(9.8)	0.7	28	26,028.1	38	845.8	35	3.4	29	878	43	41
22.1		26	583.2	0.3	41	5,650.0	42	3,991.0	23	—		196	48	42
31.6	18		443.9	0.5	40	102,745.9	19	6,179.8	19	6.4	19	2,869	33	43
77.5		19	113.2	1.3	8	7,619.2	41	(586.7)	47	—		1,535	38	44
32.5	17		60.0	0.5	38	27,903.8	36	2,387.3	31[14]	9.4	15	1,985	36	45
32.7		25	(74.0)	0.6	36	79,205.1	24	324.8	38	.4	32	5,578	23	46
60.1		22	46.5	1.1	12	2,658.2	44	(294.4)	45	—		400	44	47
51.4		23	52.6	0.9	15	45,243.5	29	633.0	37	1.4	31	1,423	39	48
13.0		29	(52.8)	0.2	44	1,095.8	46	(231.0)	44	—		244	47	49
95.0	10		318.1	1.6	3	9.1	48	(.5)	40	—		1,000	41	50
7,436.7						6,412,691.3		525,979.4				474,107		

[1] Includes home office, field force, and full-time agents.
[2] Wholly owned by Aetna Life & Casualty (F-4).
[3] Wholly owned by Cigna (F-7).
[4] Estimate.
[5] Wholly owned by Travelers Corp. (F-10).
[6] Wholly owned by American Express (F-2).
[7] Wholly owned by Sears Roebuck (R-1).
[8] Wholly owned by ITT (F-9).
[9] Wholly owned by American General (F-15).
[10] Wholly owned by CNA Financial, which is 83% owned by Loews (F-14).
[11] Wholly owned by Transamerica (F-16).
[12] Name changed from Keystone Provident Life.
[13] Wholly owned by American International Group (F-6).
[14] Wholly owned by Kemper (F-21).
[15] Wholly owned by Safeco (F-27).
[16] Wholly owned by Reliance Group Holdings (F-29).

CONTINUED

THE SERVICE 500

THE 50 LARGEST RETAILING COMPANIES

RETAILING

RANK BY SALES 1991	1990		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	1	**SEARS ROEBUCK** Chicago[a]	57,242.4	2.3	1,278.9	2	41.8	106,434.8	1	14,188.2	1
2	2	**WAL-MART STORES** Bentonville, Ark.[1]	43,886.9	34.6	1,608.5	1	24.6	15,443.4	3	6,989.7	2
3	3	**KMART** Troy, Mich.[2]	34,969.0	9.0	859.0	4	13.6	15,999.0	2	6,891.0	3
4	5	**KROGER** Cincinnati[3]	21,350.5	5.4	79.9‡	30	(3.1)	4,114.4	14	(2,749.2)	50
5	4	**AMERICAN STORES** Salt Lake City[3]	20,100.0	(9.3)	199.4	15	9.3	6,950.0	9	1,500.0	15
6	6	**J.C. PENNEY** Dallas[2]	17,295.0	(0.7)	80.0	29	(86.1)	12,520.0	4	4,188.0	5
7	8	**DAYTON HUDSON** Minneapolis[1]	16,115.0	9.3	301.0	10	(26.9)	9,485.0	6	2,231.0	8
8	7	**SAFEWAY** Oakland[2]	15,119.2	1.7	54.9‡	34	(37.0)	5,181.2	10	214.4	40
9	9	**GREAT ATLANTIC & PACIFIC TEA** Montvale, N.J.[4]	11,390.9	2.0	151.0	20	2.9	3,307.5	19	1,221.3	18
10	10	**MAY DEPARTMENT STORES** St. Louis[3]	10,615.0	(3.7)	515.0	6	3.0	8,728.0	7	2,781.0	6
11	12	**WINN-DIXIE STORES** Jacksonville, Fla.[3]	10,074.3	3.4	170.9	18	12.1	1,817.5	29	860.0	23
12	11	**WOOLWORTH** New York[1]	9,914.0	1.3	(166.0)	47	(152.4)	4,618.0	12	2,031.0	10
13	13	**MELVILLE** Rye, N.Y.[2]	9,886.2	13.8	346.7	8	(10.0)	4,085.2	15	2,090.2	9
14	14	**ALBERTSON'S** Boise, Idaho[2]	8,680.5	5.6	257.8	11	10.3	2,216.2	23	1,199.5	19
15	15	**SOUTHLAND** Dallas[3]	8,076.0	0.5	82.5**	28	—	2,595.8	21	(1,210.3)	49
16	27	**FEDERATED DEPARTMENT STORES** Cincinnati[5]	6,932.3	51.5	836.4**	5	—	7,501.1	8	1,454.1	16
17	16	**R.H. MACY** New York[2]	6,761.6	(7.0)	(150.2)**	46	—	4,811.6	11	(140.5)	45
18	23	**PRICE** San Diego[6]	6,756.0	24.4	134.1	22	6.9	1,845.5	28	763.0	26
19	19	**WALGREEN** Deerfield, Ill.[6]	6,733.0	11.1	195.0	17	11.7	2,094.6	24	1,081.2	20
20	17	**MCDONALD'S** Oak Brook, Ill.[7]	6,695.0	0.8	859.6	3	7.1	11,349.1	5	4,835.1	4
21	21	**FOOD LION** Salisbury, N.C.[2]	6,438.5	15.3	205.2	14	18.9	1,992.2	26	826.6	24
22	20	**PUBLIX SUPER MARKETS** Lakeland, Fla.[3]	6,213.8	6.8	158.0	19	6.1	1,623.7	34	1,068.5	21
23	25	**THE LIMITED** Columbus, Ohio[3]	6,149.2	17.0	403.3	7	1.2	3,418.9	17	1,876.8	11
24	22	**TOYS "R" US** Paramus, N.J.[7]	6,124.2	10.9	339.5	9	4.2	4,548.3	13	2,426.1	7
25	18	**SUPERMARKETS GENERAL HOLDINGS** Woodbridge, N.J.[3]	5,729.6	(6.5)	(402.4)	50	—	1,736.2	31	(467.0)	46
26	24	**VONS** Arcadia, Calif.[3]	5,350.2	0.3	93.1**	27	1.1	1,802.6	30	477.7	31
27	29	**COSTCO WHOLESALE** Kirkland, Wash.[8]	5,305.1	28.4	84.8	26	72.3	1,140.6	44	686.8	27
28	30	**HOME DEPOT** Atlanta[3]	5,136.7	34.0	249.1	12	52.5	2,510.3	22	1,691.2	13
29	26	**STOP & SHOP** Braintree, Mass.[3]	5,009.6	0.3	23.8‡	38	981.8	1,958.8	27	319.0	37
30	28	**TANDY** Fort Worth[3]	4,561.8	1.4	195.4	16	(32.7)	3,078.1	20	1,846.8	12
31	32	**DILLARD DEPARTMENT STORES** Little Rock, Ark.[1]	4,184.5	12.1	206.2	13	12.8	3,498.5	16	1,583.5	14
32	35	**JACK ECKERD** Largo, Fla.[3]	3,740.0	11.1	2.6	42	—	1,410.0	38	263.4	38
33	33	**TW HOLDINGS** Spartanburg, S.C.[2]	3,617.9	(1.7)	(67.6)	44	—	3,384.8	18	77.0	42
34	31	**CIRCLE K** Phoenix[9]	3,598.9	(3.7)	(307.0)	49	—	1,143.9	43	(738.8)	48
35	38	**RITE AID** Shiremanstown, Pa.[4]	3,447.5	8.7	107.3	25	5.1	1,667.0	33	773.9	25
36	34	**SERVICE MERCHANDISE** Nashville[2]	3,399.8	(1.0)	76.1	31	25.3	1,572.7	35	104.3	41
37	37	**GIANT FOOD** Landover, Md.[4]	3,349.5	3.1	118.9	23	9.7	1,175.0	41	555.7	29
38	40	**NORDSTROM** Seattle[1]	3,179.8	9.9	135.8	21	17.3	2,041.9	25	939.2	22
39	42	**LOWE'S** North Wilkesboro, N.C.[3]	3,056.2	7.9	6.5	40	(90.9)	1,441.2	37	668.6	28
40	39	**GND HOLDINGS** Riverside, Conn.[10]	2,996.6	2.8	(71.0)	45	—	1,538.3	36	(112.6)	44
41	36	**AMES DEPARTMENT STORES** Rocky Hill, Conn.[3]	2,956.8	(10.6)	(282.4)	48	—	1,355.8	39	(719.4)	47
42	49	**WABAN** Natick, Mass.[3]	2,783.6	15.5	30.0	37	63.0	786.4	48	388.6	34
43	43	**PENN TRAFFIC** Johnstown, Pa.[3]	2,772.1	(1.1)	(8.0)‡	43	—	1,221.6	40	28.0	43
44	48	**TJX** Framingham, Mass.[3]	2,757.7	12.7	20.1	39	(72.9)	1,105.3	45	260.5	39
45	44	**UNITED STATES SHOE** Cincinnati[3]	2,725.8	0.3	31.2	36	—	1,152.1	42	506.8	30
46	47	**FRED MEYER** Portland, Ore.[3]	2,702.7	9.1	45.2	35	34.7	972.8	46	335.2	36
47	●	**BRUNO'S** Birmingham, Ala.[3]	2,618.2	9.2	66.7	32	14.8	773.2	49	390.2	33
48	●	**MERCANTILE STORES** Wilmington, Del.[1]	2,442.4	3.2	114.0	24	(7.7)	1,673.1	32	1,251.0	17
49	●	**CIRCUIT CITY STORES** Richmond[4]	2,366.9	12.9	3.2	41	(96.0)	874.1	47	366.9	35
50	●	**LONGS DRUG STORES** Walnut Creek, Calif.[3]	2,365.9	1.4	55.4	33	(7.1)	672.8	50	423.2	32
TOTALS			445,674.4		9,317.3			284,368.0		68,516.2	

N.A. Not available.
● Not on last year's list.
** Reflects an extraordinary credit of at least 10%; see the explanations of "profits" and "earnings per share" on page 196.
† Average for the year; see the reference to "employees" on page 196.
‡ Reflects an extraordinary charge of at least 10%; see the explanation of "profits" and "earnings per share" on page 196.

Net sales include operating revenues, nonretailing activities, and revenues from discontinued operations when they are published. Sales of subsidiaries are included when they are consolidated. All companies on the list must have derived more than 50% of their revenues from retail operations.

	MARKET VALUE 4/16/92		PROFITS AS % OF . . .						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				EMPLOYEES		
			SALES		ASSETS		COMMON STOCKHOLDERS' EQUITY		1991	% change from 1990	1981–91 annual growth rate		1991		1981–91 annual rate				RANK 1991
	$ millions	Rank	%	Rank	%	Rank	%	Rank	$		%	Rank	%	Rank	%	Rank	Number	Rank	
	16,001.9	2	2.2	23	1.2	37	9.2	30	3.71	41.1	6.1	24	58.4	14	14.6	30	450,000	1	1
	62,815.6	1	3.7	11	10.4	4	23.0	4	1.40	22.8	43.0	2	95.4	7	46.8	4	364,000	2	2
	10,466.7	5	2.5	20	5.4	24	14.5	18	2.02	6.9	13.2	14	75.4	9	21.0	20	348,000	3	3
	1,668.9	23	0.4	38	1.9	34	—		0.89‡	(6.3)	(8.6)	29	38.6	23	28.8	12	170,000	5	4
	2,389.5	20	1.0	34	2.9	32	13.3	23	2.88	9.1	12.3	15	25.5	29	23.3	18	148,000	8	5
	7,663.5	8	0.5	37	0.6	39	1.1	36	0.39	(91.5)	(17.7)	30	30.9	26	19.4	25	185,000	4	6
	4,416.6	14	1.9	25	3.2	31	12.4	26	3.86	(29.0)	7.9	20	10.4	32	17.7	29	157,000	7	7
	1,514.3	26	0.4	39	1.1	38	25.6	2	0.48‡	(47.3)	—		44.9	18	—		110,064	13	8
	1,304.0	30	1.3	30	4.6	28	12.4	27	3.95	2.9	—		(34.4)	42	23.1	19	99,300†	15	9
	7,073.7	9	4.9	6	5.9	22	17.9	10	4.52	3.6	10.8	17	26.6	28	24.9	15	115,000	10	10
	3,390.8	18	1.7	26	9.4	9	19.9	8	2.20	14.0	7.2	21	19.4	31	20.2	24	106,000	14	11
	3,732.6	17	(1.7)	44	(3.6)	46	(8.2)	39	(1.28)	(152.2)	—		(9.3)	39	24.5	16	144,000	9	12
	5,162.3	12	3.5	13	8.5	12	15.9	15	3.20	(10.9)	9.3	18	9.3	33	20.5	23	110,148	12	13
	5,930.4	11	3.0	16	11.6	2	21.5	5	1.94	10.9	16.9	10	9.0	34	30.6	10	60,000	20	14
	N.A.		1.0	33	3.2	30	—		0.24**	—	—		N.A.		—		42,616	24	15
	1,110.1	34	12.1	2	11.2	3	—		N.A.	—	—		—		—		78,900	17	16
	N.A.		(2.2)	46	(3.1)	45	—		N.A.	—	—		—		—		69,500†	18	17
	1,586.2	25	2.0	24	7.3	17	17.6	11	2.68	8.5	35.3	3	28.0	27	—		19,000	45	18
	4,307.5	15	2.9	17	9.3	10	18.0	9	1.58	11.7	15.8	12	50.1	16	31.2	9	51,000	22	19
	15,335.8	3	12.8	1	7.6	14	17.4	12	2.35	6.8	13.8	13	31.9	24	20.9	21	168,000	6	20
	6,689.9	10	3.2	14	10.3	5	24.8	3	2.64	18.5	17.8	8	155.6	2	39.8	6	53,583	21	21
	N.A.		2.5	19	9.7	8	14.6	16	3.25	6.2	—		—		—		68,000	19	22
	9,044.6	7	6.6	3	11.8	1	21.5	6	1.11	0.9	32.4	4	61.4	11	48.8	3	83,800	16	23
	10,253.8	6	5.5	4	7.5	15	14.0	20	1.15	3.6	20.0	7	45.6	17	28.8	11	40,000	27	24
	N.A.		(7.0)	48	(23.2)	49	—		N.A.	—	—		—		—		31,000†	32	25
	1,232.5	33	1.6	29	4.6	27	17.4	13	N.A.	—	—		5.6	36	34.2	8	32,900	30	26
	4,240.0	16	1.6	28	7.4	16	12.3	28	1.11	58.6	—		131.1	4	—		15,000	48	27
	14,012.6	4	4.9	7	9.9	7	14.7	17	1.20	33.3	63.1	1	162.2	1	64.0	1	28,000	37	28
	735.0	37	0.5	36	1.2	36	7.5	34	0.63‡	844.5	—		N.A.		—		42,000	25	29
	1,873.7	21	4.3	9	6.3	21	10.4	29	2.44	(31.1)	4.0	25	0.7	38	(0.5)	34	40,200	26	30
	4,630.2	13	4.9	5	5.9	23	13.0	25	5.33	6.4	22.7	5	41.6	21	45.8	5	32,132†	31	31
	N.A.		0.1	42	0.2	42	—		N.A.	—	—		—		—		33,000	29	32
	447.4	41	(1.9)	45	(2.0)	44	(87.8)	41	(0.61)	—	—		4.3	37	—		112,000	11	33
	19.8	43	(8.5)	49	(26.8)	50	—		(7.09)	—	—		144.8	3	(14.1)	36	23,377	40	34
	1,855.1	22	3.1	15	6.4	20	13.9	21	2.59	5.3	11.7	16	19.5	30	18.8	26	29,900	35	35
	983.0	35	2.2	22	4.8	25	72.9	1	1.14	22.8	8.9	19	119.4	5	20.7	22	36,096	28	36
	1,272.5	31	3.5	12	10.1	6	21.4	7	2.01	11.7	20.5	6	(13.2)	41	34.4	7	25,700	38	37
	2,639.5	19	4.3	10	6.7	19	14.5	19	1.66	16.9	16.1	11	63.1	10	26.0	14	31,000†	33	38
	1,415.9	27	0.2	40	0.5	40	1.0	37	(0.18)	(109.4)	—		41.9	20	18.3	27	18,368	46	39
	N.A.		(2.4)	47	(4.6)	47	—		N.A.	—	—		—		—		22,000	43	40
	16.5	44	(9.6)	50	(20.8)	48	—		(7.87)	—	—		44.4	19	(13.0)	35	28,000	36	41
	835.4	36	1.1	32	3.8	29	7.7	32	1.01	57.8	—		59.6	12	—		15,000	49	42
	270.5	42	(0.3)	43	(0.7)	43	(38.5)	40	(1.57)‡	—	—		53.3	15	7.6	32	22,000	42	43
	1,269.7	32	0.7	35	1.8	35	7.7	33	0.29	(72.6)	(6.6)	28	59.4	13	24.2	17	30,000	34	44
	679.1	39	1.1	31	2.7	33	6.2	35	0.69	—	(6.4)	27	40.3	22	7.1	33	43,000	23	45
	593.0	40	1.7	27	4.6	26	13.5	22	1.80	31.4	—		114.0	6	—		24,156	39	46
	1,340.8	29	2.5	18	8.6	11	17.1	14	0.82	15.5	17.7	9	(9.5)	40	28.4	13	21,550	44	47
	1,344.8	28	4.7	8	6.8	18	9.1	31	3.10	(7.7)	7.0	22	31.3	25	18.2	28	23,000	41	48
	1,620.1	24	0.1	41	0.4	41	0.9	38	0.07	(95.9)	(3.3)	26	82.4	8	50.1	2	14,982	50	49
	717.0	38	2.3	21	8.2	13	13.1	24	2.71	(7.8)	6.6	23	7.5	35	13.4	31	15,000	47	50
	225,922.3																4,030,272		

RETAILING

* Figures are for fiscal year ended December 31, 1991.
† Figures are for fiscal year ended January 31, 1992.
‡ Figures are for fiscal year ended February 28, 1991.
§ Figures are for fiscal year ended June 30, 1991.
¶ Figures reflect merger with Allied Stores (No. 45 on last year's list), February 4, 1992.
# Figures are for fiscal year ended July 31, 1991.
** Figures are for fiscal year ended August 31, 1991.
†† Figures are for fiscal year ended April 30, 1991.
‡‡ Figures are for fiscal year ended March 31, 1991.

CONTINUED

THE SERVICE 500

THE 50 LARGEST TRANSPORTATION COMPANIES

RANK BY REVENUES 1991	1990		REVENUES† $ millions	REVENUES† % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	1	**UNITED PARCEL SERVICE** Atlanta, Ga.	15,047.4	10.4	700.2	1	17.3	8,858.6	6	3,873.2	3
2	2	**AMR** Fort Worth	12,993.0	10.1	(240.0)	44	—	16,208.0	1	3,794.0	4
3	3	**UAL** Elk Grove, Ill.	11,748.0	5.3	(331.9)	50	(451.4)	9,876.3	5	1,596.8	10
4	4	**DELTA AIR LINES** Atlanta[2]	9,170.6	6.9	(324.4)	49	(207.1)	8,410.7	7	2,506.1	7
5	5	**CSX** Richmond	8,636.0	4.0	(272.0)	45	(165.4)	12,798.0	3	3,182.0	5
6	8	**FEDERAL EXPRESS** Memphis[1]	7,688.3	9.4	5.9	29	(94.9)	5,672.5	12	1,668.6	9
7	6	**NORTHWEST AIRLINES** Eagan, Minn.	7,533.7	3.8	(3.1)	36	—	8,005.8	8	2,383.9	8
8	7	**UNION PACIFIC** Bethlehem, Pa.	7,151.0	1.3	64.0	10	(89.6)	13,326.0	2	4,163.0	1
9	9	**USAIR GROUP** Arlington, Va.	6,532.7	(0.5)	(305.3)	46	—	6,453.6	10	1,318.2	12
10	10	**CONTINENTAL AIRLINES HOLDINGS** Houston	5,551.0	(11.7)	(305.7)	47	—	3,523.0	15	(3,740.2)	50
11	11	**NORFOLK SOUTHERN** Norfolk, Va.	4,574.0	(3.8)	29.7	16	(94.7)	10,148.1	4	4,093.4	2
12	12	**BURLINGTON NORTHERN** Fort Worth	4,564.0	(2.5)	(320.0)	48	(235.6)	6,324.0	11	1,202.0	13
13	14	**CONSOLIDATED FREIGHTWAYS** Palo Alto, Calif.	4,092.8	(2.8)	(40.4)	38	—	2,285.5	18	547.1	20
14	13	**TRANS WORLD AIRLINES** Mount Kisco, N.Y.	3,687.9	(20.6)	34.6**	14	—	2,683.0	17	(797.9)	49
15	16	**CONSOLIDATED RAIL** Philadelphia	3,353.0	(3.3)	(207.0)	42	(183.8)	7,096.0	9	2,661.0	6
16	17	**ROADWAY SERVICES** Akron	3,177.0	6.6	127.3	6	6.9	1,488.6	25	890.3	15
17	19	**SOUTHERN PACIFIC TRANS.** San Francisco	2,452.4	(1.2)	1.5	34	(94.9)	4,834.1	14	1,364.1	11
18	21	**AMERICAN PRESIDENT** Oakland	2,448.7	7.3	53.9	12	—	1,513.9	24	453.9	23
19	18	**SANTA FE PACIFIC** Schaumberg, Ill.	2,392.0	(15.5)	96.4	7	—	5,220.6	13	1,036.9	14
20	20	**YELLOW FREIGHT SYSTEM** Overland Park, Kans.	2,345.8	1.8	26.7	20	(59.2)	1,097.8	30	475.9	22
21	22	**AMERICA WEST AIRLINES** Phoenix	1,419.6	7.0	(222.0)	43	—	1,111.1	29	(166.5)	47
22	25	**AIRBORNE FREIGHT** Seattle	1,367.0	15.7	30.0	15	(10.7)	823.6	33	287.3	25
23	24	**SOUTHWEST AIRLINES** Dallas	1,324.2	10.9	26.9	19	(42.8)	1,837.3	20	628.5	18
24	23	**BP PIPELINES (ALASKA)** Anchorage[4]	1,218.0	(8.0)	317.2	2	(32.4)	3,100.7	16	563.8	19
25	26	**ALASKA AIR GROUP** Seattle	1,115.7	5.8	10.3	26	(39.8)	1,211.6	27	284.4	27
26	27	**CHICAGO & NORTH WESTERN HOLDINGS** Chicago, Ill.	984.4	1.8	(72.5)	40	—	2,089.0	19	(27.7)	45
27	28	**ARKANSAS BEST** Fort Smith, Ark.	885.1	4.2	7.2	27	1,453.0	447.1	39	29.6	42
28	30	**UNIGROUP** Fenton, Mo.	789.2	0.8	11.5	24	(13.4)	327.7	42	78.5	38
29	29	**EXXON PIPELINE** Houston[4]	788.2	0.7	279.9	3	0.7	1,720.0	21	522.3	21
30	32	**CAROLINA FREIGHT** Cherryville, N.C.	770.0	4.1	1.6	33	(33.8)	375.5	41	126.9	34
31	31	**ALEXANDER & BALDWIN** Honolulu	744.8	(1.0)	92.4	8	(19.8)	1,555.0	22	734.9	17
32	38	**J.B. HUNT TRANSPORT** Lowell, Ark.	733.3	26.5	27.9	18	(7.1)	520.1	36	215.8	32
33	40	**KANSAS CITY SOUTHERN INDUS.** Kansas City, Mo.	610.2	15.6	41.9	13	1.2	1,091.9	31	411.8	24
34	37	**LANDSTAR HOLDING** Stamford, Conn.	594.4	(5.5)	3.6**	31	68.5	165.1	45	23.6	43
35	36	**PRESTON** Preston, Md.	564.9	(12.3)	(3.4)	37	—	292.1	43	84.2	37
36	39	**ILLINOIS CENTRAL** Chicago	553.9	1.2	65.4	9	41.6	1,183.5	28	260.3	28
37	41	**COLONIAL PIPELINE** Atlanta	520.8	(1.3)	151.2	5	(1.7)	848.4	32	48.4	39
38	•	**ARCO TRANSPORTATION ALASKA** Long Beach, Calif.[3]	501.4	(8.5)	157.6	4	(6.2)	1,333.3	26	286.3	26
39	42	**OVERSEAS SHIPHOLDING GROUP** New York[3]	439.2	4.5	55.1	11	(1.4)	1,545.7	23	760.3	16
40	45	**HAL** Honolulu	366.1	6.9	(98.5)	41	—	133.8	47	(206.5)	48
41	46	**INTERNATIONAL SHIPHOLDING** New Orleans	330.5	(0.0)	15.2	22	1.1	497.0	37	123.4	36
42	44	**GRAND TRUNK** Detroit	328.7	(11.8)	(43.4)	39	—	494.5	38	236.6	29
43	50	**WERNER ENTERPRISES** Omaha[1]	306.1	21.4	18.0	21	7.3	247.1	44	125.2	35
44	•	**MNX** St. Joseph, Mo.	288.9	45.0	1.7	32	655.8	83.1	49	32.7	41
45	47	**WORLDCORP** Herndon, Va.	284.2	(9.7)	10.4**	25	—	139.0	46	(30.4)	46
46	•	**OMI** New York	283.6	15.4	29.2	17	82.8	678.6	34	230.8	31
47	48	**MIDLAND ENTERPRISES** Cincinnati	270.2	(0.9)	15.0	23	(41.2)	435.1	40	153.6	33
48	•	**SEAGULL ENERGY** Houston	250.0	13.7	5.1	30	(75.2)	618.6	35	235.8	30
49	49	**WESTAIR HOLDINGS** Fresno, Calif.	239.4	(7.2)	7.2	28	—	79.0	50	16.4	44
50	•	**CHEMICAL LEAMAN** Exton, Pa.	222.7	(3.7)	0.4	35	2.1	102.3	48	39.8	40
TOTALS			144,234.0		(267.4)			160,910.8		38,782.4	

TRANSPORTATION

N.A. Not available.
• Not on last year's list.
** Reflects an extraordinary credit of at least 10%; see the explanations of "profits" and "earnings per share" on page 196.

† Average for the year; see the reference to "employees" on page 196.
Consolidated operating revenues include those from nontransportation activities, other income, and sales from discontinued operations when they are published. All figures are for the fiscal year ended December 31, 1991, unless otherwise noted. All companies must derive more than 50% of their operating revenues from common carrier operations and file public financial statements.
[1] Figures are for fiscal year ended June 30, 1991.
[2] Figures are for fiscal year ended May 31, 1991.

MARKET VALUE 4/16/92		PROFITS AS % OF ...						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				EMPLOYEES		
		REVENUES		ASSETS		COMMON STOCK-HOLDERS' EQUITY		1991	% change from 1990	1981-91 annual growth rate		1991		1981-91 annual rate				RANK 1991
$ millions	Rank	%	Rank	%	Rank	%	Rank	$		%	Rank	%	Rank	%	Rank	Number	Rank	
N.A.		4.7	12	7.9	7	18.1	4	1.14	19.4	8.9	3	—		—		256,076	1	1
5,198.0	4	(1.8)	39	(1.5)	38	(6.3)	28	(3.54)	—	—		45.7	18	20.4	5	116,264	2	2
3,143.8	7	(2.8)	40	(3.4)	42	(20.8)	33	(14.31)	(430.5)	—		32.3	22	25.1	2	81,800	3	3
2,985.8	8	(3.5)	42	(3.9)	44	(14.0)	32	(7.73)	(233.5)	—		20.7	27	12.9	15	66,512	5	4
6,455.1	3	(3.1)	41	(2.1)	40	(8.5)	30	(2.70)	(165.1)	—		88.1	7	16.5	10	49,937 †	6	5
2,534.1	10	0.1	34	0.1	34	0.4	26	0.11	(95.0)	(22.7)	16	14.4	28	2.2	24	81,711 †	4	6
N.A.		(0.0)	36	(0.0)	36	—		N.A.	—	—		—		—		43,082 †	9	7
10,455.8	1	0.9	27	0.5	30	1.5	21	0.31	(90.0)	(17.5)	14	51.2	15	10.9	16	47,090 †	8	8
646.6	19	(4.7)	43	(4.7)	45	(31.6)	35	(7.62)	—	—		(23.0)	32	0.6	25	48,700	7	9
9.3	37	(5.5)	44	(8.7)	47	—		(6.74)	—	—		(75.0)	35	(22.2)	27	36,300	11	10
9,221.0	2	0.6	29	0.3	33	0.7	25	0.20	(94.2)	(23.7)	17	46.9	16	18.2	8	31,952 †	12	11
3,879.4	5	(7.0)	46	(5.1)	46	(26.6)	34	(4.14)	(234.9)	—		46.5	17	22.0	3	31,760 †	13	12
617.5	20	(1.0)	38	(1.8)	39	(9.9)	31	(1.52)	—	—		30.9	24	4.6	21	37,700	10	13
N.A.		0.9	25	1.3	27	—		N.A.	—	—		—		—		29,463 †	14	14
3,807.3	6	(6.2)	45	(2.9)	41	(8.4)	29	(5.39)	(205.7)	—		115.9	5	—		25,852 †	16	15
2,929.6	9	4.0	15	8.6	6	14.3	7	3.27	7.2	4.4	5	64.0	13	16.0	12	25,000	17	16
N.A.		0.1	35	0.0	35	—		N.A.	—	—		—		—		21,070	18	17
518.8	22	2.2	19	3.6	17	10.4	12	3.00	—	—		171.8	2	—		5,232	30	18
2,280.2	11	4.0	14	1.8	24	9.3	15	0.54	—	(13.3)	13	117.4	4	19.3	6	14,354	19	19
807.5	18	1.1	24	2.4	21	5.6	17	0.95	(58.9)	(2.1)	7	3.7	30	16.3	11	28,700 †	15	20
12.4	36	(15.6)	49	(20.0)	49	—		(10.39)	—	—		(81.7)	36	—		11,561	21	21
449.5	23	2.2	20	3.6	15	9.5	14	1.40	(20.5)	14.1	2	44.5	19	20.6	4	13,800	20	22
1,599.9	12	2.0	22	1.5	26	4.3	19	0.63	(42.7)	(3.5)	8	95.7	6	16.7	9	9,778	24	23
N.A.		26.0	4	10.2	4	—		N.A.	—	—		—		—		19	50	24
239.8	26	0.9	26	0.9	28	1.3	22	0.27	(67.1)	(12.8)	11	25.4	25	14.5	13	6,607	27	25
1,010.5	14	(7.4)	47	(3.5)	43	—		(4.72)	—	—		—		—		5,910	28	26
N.A.		0.8	28	1.6	25	24.4	3	N.A.	—	—		—		—		10,184	23	27
N.A.		1.5	23	3.5	18	14.7	5	N.A.	—	—		—		—		913	42	28
N.A.		35.5	1	16.3	2	—		N.A.	—	—		—		—		607	47	29
107.4	30	0.2	32	0.4	32	1.2	23	0.23	(34.3)	(17.8)	15	59.1	14	13.0	14	10,821	22	30
1,144.2	13	12.4	6	5.9	10	12.6	10	2.00	(20.0)	16.3	1	31.3	23	26.9	1	2,957	34	31
846.7	16	3.8	16	5.4	12	12.9	8	0.80	(6.2)	—		73.6	10	—		9,445	25	32
818.8	17	6.9	9	3.8	14	10.3	13	1.98	0.3	9.0	6	73.8	9	8.3	18	5,329	29	33
N.A.		0.6	30	2.2	22	—		N.A.	—	—		—		—		2,156	38	34
37.4	32	(0.6)	37	(1.2)	37	(4.0)	27	(0.59)	—	—		(30.4)	33	(1.0)	26	8,895	26	35
952.0	15	11.8	7	5.5	11	25.1	2	1.64	25.5	—		182.3	1	—		3,037 †	33	36
N.A.		29.0	3	17.8	1	—		N.A.	—	—		—		—		716	46	37
N.A.		31.4	2	11.2	3	—		N.A.	—	—		—		—		20	49	38
594.2	21	12.5	5	3.6	16	7.2	16	1.67	2.5	(3.8)	9	24.3	26	8.3	19	2,275	37	39
20.5	35	(26.9)	50	(73.7)	50	—		(35.49)	—	—		(32.3)	34	2.8	22	2,702	35	40
110.7	29	4.6	13	3.1	20	11.0	11	2.66	1.5	4.6	4	9.8	29	18.2	7	775	44	41
N.A.		(13.2)	45	(8.8)	48	—		N.A.	—	—		—		—		3,116 †	32	42
367.6	24	5.9	10	7.3	9	14.4	6	1.56	8.3	—		70.8	11	—		3,872	31	43
36.7	33	0.6	31	2.0	23	5.1	18	0.35	600.0	—		86.7	8	—		1,858	40	44
156.5	28	3.6	17	7.5	8	—		0.70**	—	—		145.7	3	9.1	17	900	43	45
171.6	27	10.3	8	4.3	13	12.7	9	0.92	84.0	—		40.2	20	—		757	45	46
N.A.		5.6	11	3.4	19	—		N.A.	—	—		—		—		1,900	39	47
303.8	25	2.0	21	0.8	29	2.2	20	0.45	(79.6)	(7.1)	10	(17.8)	31	6.7	20	510	48	48
50.7	31	3.0	18	9.1	5	43.7	1	1.10	—	—		66.7	12	—		1,544	41	49
21.9	34	0.2	33	0.4	31	1.1	24	0.49	2.1	(13.2)	12	38.4	21	2.3	23	2,400 †	36	50
64,542.8																1,203,919		

* Wholly owned by Exxon (No. 2 on Fortune Industrial 500)
** Company was formed in restructuring of Arco Pipe Line, No. 33 on last years list
† Wholly owned by Atlantic Richfield (No. 23 on Fortune Industrial 500)
†† Figures are for fiscal year ended February 28, 1991

CONTINUED

THE 50 LARGEST UTILITIES

RANK BY ASSETS 1991	1990		ASSETS $ millions	ASSETS % change from 1990	REVENUES[1] $ millions	REVENUES Rank	REVENUES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	1	**GTE** Stamford, Conn.	42,437.0	25.7	21,823.0[‡]	1	18.8	1,580.0	1	2.5	11,313.0	2
2	2	**BELLSOUTH** Atlanta	30,941.7	2.4	14,522.9	2	0.6	1,471.5	2	(9.8)	13,104.9	1
3	3	**BELL ATLANTIC** Philadelphia	27,881.6	(0.4)	12,279.7	4	(0.1)	(222.7)	46	(117.0)	7,831.3	9
4	4	**US WEST** Englewood, Colo.	27,854.1	3.0	10,577.2	6	6.2	553.4	13	(53.8)	9,587.4	3
5	5	**NYNEX** New York	27,502.6	3.2	13,228.8	3	(2.6)	600.8	9	(36.7)	9,111.9	4
6	6	**SOUTHWESTERN BELL** St. Louis	23,179.4	4.4	9,331.9	9	2.4	1,075.8	4	(2.3)	8,859.2	5
7	7	**PACIFIC GAS & ELECTRIC** San Francisco	22,900.7	4.3	9,872.3	8	2.9	1,026.4	5	4.0	8,576.2	6
8	8	**AMERITECH** Chicago	22,289.7	2.6	10,818.4	5	1.5	1,165.5	3	(7.0)	8,097.0	8
9	9	**PACIFIC TELESIS GROUP** San Francisco	21,838.0	1.2	9,895.0	7	1.8	1,015.0	6	(1.5)	7,729.0	10
10	10	**SOUTHERN** Atlanta	19,863.0	(0.5)	8,080.0	10	1.0	876.0	7	45.0	8,183.0	7
11	11	**TEXAS UTILITIES** Dallas	18,792.8	0.8	4,893.2	17	7.7	(410.0)	48	(148.2)	7,291.4	11
12	12	**COMMONWEALTH EDISON** Chicago	17,365.3	(2.9)	6,275.5	12	19.3	94.9	41	(26.0)	6,180.9	12
13	13	**SCECORP** Rosemead, Calif.	16,828.2	3.2	7,614.1	11	3.6	702.6	8	(10.7)	6,039.6	13
14	15	**PUBLIC SVC. ENTERPRISE GROUP** Newark, N.J.	14,824.4	5.7	5,093.2	15	6.1	544.3	14	0.4	4,763.2	15
15	14	**ENTERGY** New Orleans	14,383.1	(3.0)	4,051.4	19	1.7	482.0	18	0.8	4,207.9	20
16	16	**AMERICAN ELECTRIC POWER** Columbus, Ohio	14,125.3	1.0	5,046.6	16	(2.3)	497.9	17	0.3	4,222.3	19
17	19	**PACIFICORP** Portland, Ore.	13,228.8	6.9	4,007.0	20	5.9	507.2	16	7.0	3,854.0	21
18	20	**TELE-COMMUNICATIONS** Denver	13,010.0	5.7	3,827.0	22	5.6	(102.0)	44	—	1,439.0	44
19	18	**PHILADELPHIA ELECTRIC** Philadelphia	12,558.4	(0.1)	3,975.8	21	7.3	534.7	15	149.6	4,314.8	18
20	21	**CENTERIOR ENERGY** Independence, Ohio	12,042.1	1.2	2,560.3	35	8.1	237.2	31	(10.3)	3,281.8	24
21	22	**HOUSTON INDUSTRIES** Houston	12,028.8	1.3	4,464.9	18	6.9	417.4	20	23.0	3,682.3	23
22	17	**FPL GROUP** North Palm Beach, Fla.	11,281.8	(12.9)	5,963.4	13	(5.2)	240.6	30	—	3,700.1	22
23	23	**DOMINION RESOURCES** Richmond	11,201.4	1.9	3,785.7	24	6.1	459.9	19	3.2	4,342.8	17
24	24	**CONSOLIDATED EDISON OF NEW YORK** New York	11,107.9	4.0	5,873.1	14	1.9	566.9	12	(0.8)	5,200.0	14
25	26	**DUKE POWER** Charlotte, N.C.	10,470.6	3.8	3,817.0	23	3.3	583.6	10	8.4	4,568.3	16
26	25	**DETROIT EDISON** Detroit	10,463.6	(1.0)	3,591.5	25	8.6	568.0	11	10.4	3,132.8	25
27	28	**LONG ISLAND LIGHTING** Hicksville, N.Y.	9,543.3	7.9	2,548.8	37	4.2	305.5	25	(7.8)	2,284.9	34
28	27	**CENTRAL & SOUTH WEST** Dallas	9,396.0	3.5	3,047.0	28	11.0	401.0	21	3.9	3,126.0	26
29	31	**NIAGARA MOHAWK POWER** Syracuse, N.Y.	8,241.5	6.1	3,382.5	26	7.2	243.4	29	193.6	2,405.5	31
30	32	**PENNSYLVANIA POWER & LIGHT** Allentown	7,934.6	2.6	2,559.7	36	7.2	348.4	23	1.3	2,529.4	30
31	30	**OHIO EDISON** Akron	7,812.3	(0.4)	2,377.7	40	6.8	264.8	27	(6.0)	2,726.2	27
32	33	**CAROLINA POWER & LIGHT** Raleigh, N.C.	7,523.3	0.1	2,715.3	32	3.8	377.0	22	(0.9)	2,628.8	29
33	35	**GENERAL PUBLIC UTILITIES** Parsippany, N.J.	7,404.9	7.1	3,371.6	27	12.5	275.9	26	(0.8)	2,670.7	28
34	37	**BALTIMORE GAS & ELECTRIC** Baltimore	7,078.8	5.5	2,459.5	38	13.9	253.4	28	18.9	2,322.5	33
35	36	**GULF STATES UTILITIES** Beaumont, Texas	6,911.5	0.7	1,702.2[‡]	45	0.7	102.3	40	—	2,258.1	36
36	38	**NORTHEAST UTILITIES** Berlin, Conn.	6,781.7	2.7	2,753.8	31	5.3	236.7	32	12.2	2,270.8	35
37	34	**PINNACLE WEST CAPITAL** Phoenix	6,482.7	(7.5)	1,474.5	49	(8.1)	(186.9)	45	(292.0)	1,325.4	46
38	39	**COLUMBIA GAS SYSTEM** Wilmington, Del.	6,332.2	2.2	2,576.8	34	8.0	(694.4)	49	(763.2)	1,006.9	49
39	29	**CMS ENERGY** Dearborn, Mich.	6,194.0	(21.8)	2,940.9	29	(1.2)	(275.6)	47	—	1,059.8	47
40	40	**PANHANDLE EASTERN** Houston	6,176.5	1.8	2,454.2	39	(17.9)	85.1	42	—	1,333.1	45
41	43	**POTOMAC ELECTRIC POWER** Washington, D.C.	5,853.8	11.7	1,552.1	47	9.9	210.2	34	23.5	1,842.1	40
42	41	**UNION ELECTRIC** St. Louis	5,733.5	0.5	2,096.9	43	3.7	321.5	24	9.3	2,323.9	32
43	42	**ILLINOIS POWER** Decatur, Ill.	5,271.8	(1.4)	1,474.9	48	5.7	109.2	39	—	1,759.2	41
44	44	**OGLETHORPE POWER** Tucker, Ga.	5,246.4	0.9	1,104.8	50	1.5	N.A.[‡]		—	236.8	50
45	46	**FLORIDA PROGRESS** St. Petersburg, Fla.	5,024.9	(0.4)	2,074.7	44	(6.9)	172.1	36	4.4	1,721.2	42
46	47	**CONSOLIDATED NATURAL GAS** Pittsburgh	5,011.1	0.1	2,625.0	33	(3.6)	168.6	38	3.0	1,889.8	38
47	45	**ARKLA** Shreveport, La.	4,969.6	(2.8)	2,793.6	30	14.5	13.4	43	(87.4)	1,016.2	48
48	49	**NEW YORK STATE ELECTRIC & GAS** Ithaca, N.Y.	4,924.8	4.0	1,555.8	46	3.9	168.6	37	6.7	1,565.6	43
49	●	**ALLEGHENY POWER SYSTEM** New York	4,855.0	111.3	2,282.2	41	(50.0)	194.0	35	1.4	1,920.7	37
50	48	**NORTHERN STATES POWER** Minneapolis	4,750.9	(0.2)	2,206.9	42	6.4	224.0	33	14.6	1,877.3	39
TOTALS			635,855.5		251,400.4			18,385.4			208,715.2	

N.A. Not available.
● Not on last year's list.
† Average for the year; see the reference to "employees" on page 196.

‡ Reflects an extraordinary charge of at least 10%; see the explanation of "profits" and "earnings per share" on page 196.
§ Includes sales from discontinued operations of at least 10%.

Assets are shown as of December 31, 1991. Only assets of consolidated subsidiaries are included.

[1] Gross receipts from operations during 1991 include nonutility revenues from manufacturing, transportation, and other activities; other income; and revenues from discontinued operations when they are published. All companies on the list must derive more than 50% of their revenues from utility operations.

MARKET VALUE 4/16/92		PROFITS AS % OF ...						EARNINGS PER SHARE				TOTAL RETURN TO INVESTORS				EMPLOYEES		
		REVENUES		ASSETS		COMMON STOCKHOLDERS' EQUITY		1991	% change from 1990	1981-91 annual growth rate		1991		1981-91 annual rate				RANK 1991
$ millions	Rank	%	Rank	%	Rank	%	Rank	$		%	Rank	%	Rank	%	Rank	Number	Rank	
28,333.9	1	7.2	34	3.7	21	14.2	5	1.75	(22.6)	2.0	18	24.7	28	20.1	22	162,000	1	1
22,096.2	2	10.1	23	4.8	7	11.2	27	3.04	(10.1)	—		(0.2)	44	—		96,084	2	2
16,877.7	4	(1.8)	44	(0.8)	45	(2.8)	44	(0.53)	(115.7)	—		(5.3)	45	—		75,700	4	3
14,194.0	8	5.2	38	2.0	38	5.8	39	1.38	(55.6)	—		3.0	41	—		65,829	6	4
15,231.1	7	4.5	39	2.2	35	6.6	37	2.98	(37.7)	—		20.7	36	—		83,871	3	5
18,465.7	3	11.5	13	4.6	10	12.1	17	3.58	(2.5)	—		21.4	33	—		61,200	8	6
13,049.1	9	10.4	19	4.5	11	12.2	16	2.24	6.7	2.8	15	38.1	8	22.7	6	26,700	11	7
16,184.8	6	10.8	17	5.2	4	14.4	4	4.39	(7.2)	—		0.4	43	—		73,967	5	8
16,742.5	5	10.3	21	4.6	9	13.3	7	2.58	(0.4)	—		3.7	40	—		62,236	7	9
10,377.1	10	10.8	15	4.4	12	12.6	13	2.78	45.5	4.4	9	33.0	11	22.2	9	30,402	10	10
8,059.3	12	(8.4)	46	(2.2)	46	(6.5)	45	(1.98)	(145.0)	—		23.6	31	18.1	29	15,262	19	11
6,858.8	15	1.5	42	0.5	42	0.3	43	0.08	(63.6)	(30.5)	36	24.2	29	18.6	28	20,194	13	12
9,451.3	11	9.2	28	4.2	16	12.4	14	3.21	(10.8)	2.7	16	31.8	13	21.9	12	17,513	16	13
6,149.3	17	10.7	18	3.7	22	11.4	26	2.43	(5.1)	3.3	12	20.2	38	19.8	23	13,116	22	14
5,006.7	25	11.9	12	3.4	32	11.5	25	2.64	8.2	0.8	22	39.1	5	16.0	32	12,763	23	15
5,951.3	18	9.9	24	3.5	25	11.8	21	2.70	1.9	1.3	21	32.5	12	18.8	26	22,136	12	16*
5,902.5	20	12.7	9	3.8	19	13.7	6	1.86	0.5	2.8	14	19.9	39	20.2	21	15,722	18	17
7,434.5	13	(2.7)	45	(0.8)	44	(7.1)	46	(0.28)	—	—		151.5	1	36.7	1	33,000	9	18
5,720.8	22	13.4	7	4.3	15	12.0	18	2.15	270.7	(0.5)	25	52.0	3	19.3	24	9,660	28	19
2,556.0	38	9.3	27	2.0	39	8.3	35	1.71	(10.0)	(2.8)	28	20.6	37	15.6	33	8,592	34	20
5,619.0	23	9.3	26	3.5	27	12.2	15	3.28	22.8	0.4	23	30.2	23	20.4	18	13,289	21	21
5,932.7	19	4.0	40	2.1	36	7.2	36	1.48	—	(3.6)	29	37.4	9	18.7	27	15,144	20	22
5,789.9	21	12.1	10	4.1	17	11.9	20	2.94	0.7	5.2	4	30.3	20	22.3	7	12,728	24	23
6,250.4	16	9.7	25	5.1	5	11.5	24	2.32	(0.9)	3.7	11	30.4	19	22.1	10	19,087	15	24
6,934.2	14	15.3	3	5.6	2	13.0	11	2.60	8.3	5.0	6	20.9	34	21.2	15	19,387	14	25
4,832.1	26	15.8	1	5.4	3	18.8	1	3.64	11.7	6.1	1	30.9	16	23.6	5	9,357	30	26
2,589.2	36	12.0	11	3.2	33	11.2	28	2.15	(8.9)	(1.7)	26	23.3	32	10.4	36	6,605	42	27
5,037.6	24	13.2	8	4.3	14	13.2	8	1.99	5.0	4.6	8	30.5	18	24.1	4	16,205	17	28
2,585.9	37	7.2	35	3.0	34	9.6	33	1.49	396.7	(4.5)	31	38.8	6	12.8	34	11,739	26	29
3,791.5	28	13.6	5	4.4	13	13.2	9	4.01	1.5	2.4	17	28.7	25	22.2	8	9,008	33	30
3,013.2	31	11.1	14	3.4	30	10.1	31	1.60	(4.2)	(3.6)	30	29.3	24	18.0	30	6,481	42	31
4,259.5	27	13.9	4	5.0	6	15.2	2	4.53	3.9	4.0	10	23.7	30	20.3	20	8,168	35	32
2,839.7	34	8.2	32	3.7	20	12.0	19	2.49	(0.8)	—		27.1	27	26.0	2	12,018	25	33
2,855.1	33	10.3	20	3.6	24	9.8	32	2.51	19.5	3.1	13	31.3	14	20.3	19	9,626	29	34
1,468.5	46	6.0	37	1.5	40	1.9	41	0.34‡	—	(17.2)	33	(6.8)	46	4.3	40	4,889	47	35
2,904.8	32	8.6	29	3.5	26	12.6	12	2.12	9.3	5.1	5	28.0	26	21.3	14	7,948	36	36
1,555.3	45	(12.7)	48	(2.9)	47	(14.1)	47	(2.15)	(292.0)	—		73.7	2	7.8	37	7,811	37	37
802.6	49	(26.9)	49	(11.0)	49	(69.0)	49	(13.74)	(721.7)	—		(62.2)	49	1.1	42	10,367	27	38
1,227.3	47	(9.4)	47	(4.4)	48	(26.0)	48	(3.44)	—	—		(32.7)	47	5.0	38	9,347	31	39
1,581.9	44	3.5	41	1.4	41	6.4	38	0.86	—	(18.3)	34	30.3	21	4.8	39	5,300	45	40
2,654.5	35	13.5	6	3.6	23	11.5	22	1.87	15.4	5.7	2	30.7	17	21.8	13	5,169†	46	41
3,382.9	30	15.3	2	5.6	1	14.6	3	3.01	9.9	4.7	7	38.7	7	24.4	3	3,760	41	42
1,645.3	43	7.4	33	2.1	37	5.4	40	1.04	—	(9.6)	32	45.9	4	10.8	35	4,514	49	43
N.A.		—		—		—		N.A.	—	—		—		—		603	50	44
2,433.9	40	8.3	31	3.4	28	10.8	29	3.20	(0.3)	1.3	20	31.3	15	20.9	16	7,350	39	45
3,383.7	29	6.4	36	3.4	31	8.9	34	1.94	1.6	0.4	24	2.2	42	19.0	25	7,726	38	46
886.6	48	0.5	43	0.3	43	0.6	42	0.05	(95.5)	(29.9)	35	(33.1)	48	1.8	41	9,100	32	47
1,803.0	42	10.8	16	3.4	29	10.6	30	2.36	(4.8)	(2.2)	27	20.7	35	17.7	31	4,842	48	48
2,297.8	41	8.5	30	4.0	18	11.5	23	3.61	—	1.8	19	30.2	22	20.5	17	6,081	44	49
2,532.9	39	10.2	22	4.7	8	13.1	10	3.29	16.3	5.4	3	35.2	10	22.0	11	7,113	40	50
327,533.4																1,179,709		

* Name changed from American Information Technologies
* Cooperatives provide only net margin figures, which are not comparable with the profit figures on this list

CONTINUED

THE SERVICE 500

HIGHLIGHTS

DEFINITIONS AND EXPLANATIONS

ASSETS

Assets shown are the company's year-end total.

PROFITS

Profits are shown after taxes and after extraordinary credits or charges if any appear on the income statement. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the profits shown; a double dagger (‡) an extraordinary charge of at least 10%. Figures in parentheses indicate a loss. Profit declines over 100% reflect swings from 1990 profits to 1991 losses. Cooperatives provide only "net margin" figures, which are not comparable with the profits figures in these listings, and therefore N.A. is shown in that column.

STOCKHOLDERS' EQUITY

Total stockholders' equity is the sum of capital stock, surplus, and retained earnings at the company's year-end. Preferred stock capital that is technically construed to be debt has been excluded. Redeemable preferred stock whose redemption is either mandatory or outside the control of the company is therefore excluded, as is any portion of an ESOP convertible preferred whose repayment is guaranteed by the company. For purposes of calculating profits as percent of common stockholders' equity, all preferred stock is excluded. The dividends paid on such stock have been subtracted from the profit figure.

EMPLOYEES

The figure shown is a year-end total except when it is followed by a dagger (‡), in which case it is an average.

MARKET VALUE

The figure shown was arrived at by multiplying the number of common shares outstanding (at the latest date available) by the price per common share as of April 16, 1992.

EARNINGS PER SHARE

The figures shown for each company are the primary earnings per share that appear on the income statement. Per share earnings for 1990 and 1981 are adjusted for stock splits and stock dividends. They are not restated for mergers, acquisitions, or accounting changes. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the profit shown; a double dagger (‡) an extraordinary charge of at least 10%. Results are listed as not available (N.A.) if the companies are cooperatives, joint ventures, or wholly owned subsidiaries of other companies; if the figures were not published; or if the stock traded on a limited basis and was not widely held. The 1981-91 growth rate is the annual rate, compounded.

TOTAL RETURN TO INVESTORS

Total return to investors includes both price increase or decrease and dividend yield to an investor in the company's stock. The figures shown assume sales at the end of last year of stock owned at the end of 1981 and 1990. It has been assumed that any proceeds from cash dividends, the sale of rights and warrant offerings, and stock received in spinoffs were reinvested when they were paid. Returns are adjusted for stock splits, stock dividends, recapitalizations, and corporate reorganizations as they occur; however, no effort has been made to reflect the cost of brokerage commissions or of taxes. Results are listed as not available (N.A.) if shares are not publicly traded or are traded on a limited basis. If companies have more than one class of shares outstanding, only the more widely held and actively traded has been considered. Total return percentages shown are the returns received by the hypothetical investor described above. The 1981-91 return is the annual rate, compounded.

MEDIANS

The median figures in the tables refer only to results of companies in the 500, and no attempt has been made to calculate them in groups with fewer than four companies. The medians for profit changes from 1990 do not include companies that lost money in both 1990 and 1991, because no meaningful percentage changes can be calculated in such cases.

Most of the figures in the Fortune Service 500 Directory were prepared by reporters Mark D. Fefer and Sally Solo. The figures on market value, per share earnings, and total return to investors were prepared by Claudine Knight and Kathleen Smyth.

SERVICE MEDIANS

CHANGES IN SALES[1]

RANK		%
1	DIVERSIFIED SERVICE	5.3
2	RETAILING	4.4
3	UTILITIES	4.1
4	DIVERSIFIED FINANCIALS	2.8
5	TRANSPORTATION	1.6
THE SERVICE 500 MEDIAN		4.1

CHANGES IN PROFITS

RANK		%
1	LIFE INSURANCE	49.7
2	SAVINGS INSTITUTIONS	43.2
3	DIVERSIFIED FINANCIALS	12.9
4	COMMERCIAL BANKS	9.4
5	RETAILING	6.9
6	DIVERSIFIED SERVICE	3.5
7	UTILITIES	0.8
8	TRANSPORTATION	(13.4)
THE SERVICE 500 MEDIAN		6.4

TOTAL RETURN TO INVESTORS, 1991[2]

RANK		%
1	COMMERCIAL BANKS	75.1
2	SAVINGS INSTITUTIONS	53.8
3	TRANSPORTATION	45.1
4	RETAILING	40.9
5	DIVERSIFED FINANCIALS	36.5
6	UTILITIES	28.7
7	DIVERSIFIED SERVICE	28.5
THE SERVICE 500 MEDIAN		40.9

TOTAL RETURN TO INVESTORS, 1981-91 ANNUAL RATE[2]

RANK		%
1	RETAILING	23.2
2	UTILITIES	20.2
3	SAVINGS INSTITUTIONS	19.6
4	COMMERCIAL BANKS	19.4
5	DIVERSIFED FINANCIALS	17.4
6	DIVERSIFIED SERVICE	14.9
7	TRANSPORTATION	13.0
THE SERVICE 500 MEDIAN		18.2

RETURN ON SALES[1]

RANK		% 1991	% 1990
1	UTILITIES	9.7	9.9
2	DIVERSIFIED FINANCIALS	6.6	5.0
3	DIVERSIFIED SERVICE	1.8	2.3
4	RETAILING	1.7	1.7
5	TRANSPORTATION	0.9	1.6
THE SERVICE 500 MEDIAN		3.0	3.2

RETURN ON ASSETS[2]

RANK		% 1991	% 1990
1	RETAILING	4.6	4.8
2	UTILITIES	3.5	3.6
3	DIVERSIFIED SERVICE	3.0	3.7
4	TRANSPORTATION	1.5	1.7
5	DIVERSIFIED FINANCIALS	1.4	1.1
6	COMMERCIAL BANKS	0.7	0.6
7	SAVINGS INSTITUTIONS	0.3	(0.2)
THE SERVICE 500 MEDIAN		1.1	1.0

RETURN ON COMMON STOCKHOLDERS' EQUITY[2]

RANK		% 1991
1	DIVERSIFIED FINANCIALS	13.9
2	RETAILING	13.7
3	COMMERCIAL BANKS	11.9
4	UTILITIES	11.5
5	DIVERSIFIED SERVICE	10.9
6	SAVINGS INSTITUTIONS	8.2
7	TRANSPORTATION	5.1
THE SERVICE 500 MEDIAN		11.3

SALES PER DOLLAR OF STOCKHOLDERS' EQUITY[1]

RANK		$
1	RETAILING	5.48
2	DIVERSIFIED SERVICE	3.92
3	TRANSPORTATION	2.70
4	DIVERSIFED FINANCIALS	2.22
5	UTILITIES	1.12
THE SERVICE 500 MEDIAN		2.78

SALES PER EMPLOYEE[1]

RANK		$
1	DIVERSIFED FINANCIALS	340,328
2	UTILITIES	307,342
3	DIVERSIFIED SERVICE	267,300
4	TRANSPORTATION	143,385
5	RETAILING	119,718
THE SERVICE 500 MEDIAN		207,928

Commercial banks, savings institutions, and life insurance companies are not included. [2]Life insurance companies are not included. [1]Net income based on statutory accounting.

CONTINUED

THE SERVICE 500

HIGHLIGHTS

ARRIVALS AND DEPARTURES

NEWCOMERS TO THE 500

	1991 RANK
ADVANTA	F-49
BERKLEY (W.R.)	F-50
CARDINAL DISTRIBUTION	S-96
CARGILL	S-2
CIRCUIT CITY STORES	R-49
COLLECTIVE BANCORP	I-45
CONTROL DATA	S-77
CRAGIN FINANCIAL CORP.	I-41
DFSOUTHEASTERN	I-43
FHP INTERNATIONAL	S-86
FIRST CITIZENS BANCSHARES	B-92
FIRST FINANCIAL MANAGEMENT	S-80
FIRST SAVINGS BANK	I-50
KIEWIT (PETER) SONS'	S-34
LIFE INSURANCE CO. OF VA.	L-48
MBIA	F-45
MBNA	B-87
MNX	T-44
OMI	T-46
PACIFICARE HEALTH SYSTEMS	S-89
PENN CENTRAL	S-45
PUGET SOUND BANCORP	B-98
ROOSEVELT FINANCIAL GROUP	I-49
SEAGULL ENERGY	T-48
SUMITOMO BANK OF CALIFORNIA	B-94
UNIONFED FINANCIAL	I-48
UNITED MISSOURI BANCSHARES	B-100
WASHINGTON FEDERAL S&L ASSN.	I-38
WEST ONE BANC	B-93

RETURNED TO THE 500

ALLEGHENY POWER SYSTEM (1989: U-50)	U-49
ARGONAUT GROUP (1989: F-50)	F-47
BRUNO'S (1989: R-49)	R-47
CHEMICAL LEAMAN (1988: T-49)	T-50
EUROPEAN AMER. BANCORP (1989: B-96)	B-99
FIRST COMMERCE CORP. (1987: B-98)	B-97
FREMONT GENERAL (1985: F-39)	F-46
LONGS DRUG STORES (1989: R-50)	R-50
MERCANTILE STORES (1989: R-45)	R-48
PIONEER HI-BRED INTL. (1988: S-98)	S-99
20TH CENTURY FOX FILM (1989: S-98)	S-72
UNUM LIFE (1989: L-47)	L-31

DISPLACED FROM THE 500

	1991 RANK
ALLIED STORES[1]	R-45
AMERICAN CAPITAL CORP.[2]	I-22
AMERIFIRST BANK[3]	I-34
BANK OF NEW ENGLAND CORP.[1]	B-35
BANK SOUTH CORP.	B-93
BRANIFF[4]	T-43
CARTER HAWLEY HALE	R-41
C&S/SOVRAN CORP.[1]	B-12
CITGO PETROLEUM[5]	S-11
CITY NATIONAL CORP.	B-96
CROSSLAND SAVINGS[6]	I-8
EQUIFAX	S-92
EXECUTIVE LIFE[7]	L-27
FARWEST FINANCIAL[7]	I-35
GATX[8]	F-41
GOLDOME[3]	I-7
GREAT AMERICAN BANK[9]	I-11
HILTON HOTELS	S-87
INDIANA FARM BUREAU COOP.	S-90
ISRAEL DISCOUNT BANK (N.Y.)	B-100
LANDMARK LAND[4]	F-49
LINCOLN NATIONAL[10]	F-18
MANUFACTURERS HANOVER CORP.[1]	B-9
MAYFLOWER GROUP[4]	T-34
MIDWAY AIRLINES[4]	T-35
MUTUAL BENEFIT LIFE[11]	L-18
NVR	S-94
PAN AM[4]	T-15
PERINI	S-98
PERPETUAL FINANCIAL CORP.[3]	I-23
PROMUS	S-99
REVCO D.S.	R-46
RICHFOOD HOLDINGS	S-93
SOUTH CAROLINA NATL. CORP.[1]	B-78
SOUTHEAST BANKING CORP.[1]	B-44
SUNKIST GROWERS	S-95
TLC/BEATRICE INTERNATIONAL HLDGS.[4]	S-69
TRANSCO ENERGY	U-50
UNITED BANKS OF COLORADO[1]	B-87
UNIVERSAL HEALTH SERVICES	S-97
VALLEY FEDERAL S&L ASSN.[1]	I-49

[1] Merged with another corp., any on the Service 500.
[2] Had no actively traded stock at December 31, 1991.
[3] Acquired by another company on the Service 500.
[4] Liquidated.
[5] No. 34 on Fortune Industrial 500.
[6] Figures were not made public.
[7] In conservatorship; no figures available.
[8] No longer classified as Diversified Financial.
[9] Resolved; assets sold by federal regulators.
[10] In rehabilitation under N.J. insurance commission.

THE MONEY LOSERS

COMPANY	SALES RANK	LOSS $ mil.
HOMEFED CORP.	I-6	$807.7*
SECURITY PACIFIC CORP.	B-7	774.5
COLUMBIA GAS SYSTEM	U-38	694.4
MIDLANTIC CORP.	B-34	543.3*
CITICORP	B-1	457.0
TEXAS UTILITIES	U-11	410.0
SUPERMARKETS GEN. HLDGS.	R-25	402.4*
NATL. WESTMINSTER BAN.	B-31	371.5*
FIRST AMER. BANKSHARES	B-70	358.3*
UAL	T-3	331.9
DELTA AIR LINES	T-4	324.4
BURLINGTON NORTHERN	T-12	320.0
CIRCLE K	R-34	307.0*
CONTINENTAL AIR. HLDGS.	T-10	305.7*
USAIR GROUP	T-9	305.3*
NATIONAL INTERGROUP	S-36	294.6
GENERAL CINEMA	S-30	293.1
FIRST INTERSTATE BANCORP	B-11	288.1
AMES DEPARTMENT STORES	R-41	282.4*
CMS ENERGY	U-39	275.6*
CSX	T-5	272.0
ECOLAB	S-88	243.6
AMR	T-2	240.0*
DIME SAVINGS BANK OF N.Y.	I-7	237.4*
GLENFED	I-4	231.7
FIRST CITY BANCORP. OF TEX.	B-57	224.8*
BELL ATLANTIC	U-3	222.7
AMERICA WEST AIRLINES	T-21	222.0*
CONSOLIDATED RAIL	T-15	207.0
MARINE MIDLAND BANKS	B-38	189.9*
BANK OF CALIFORNIA	B-69	187.6
PINNACLE WEST CAPITAL	U-37	186.9
USF&G	F-22	176.0*
SHAWMUT NATIONAL CORP.	B-29	170.6*
WOOLWORTH	R-12	166.0
HIBERNIA CORP.	B-86	165.6*
AMERICAN SAVINGS BANK	I-29	160.1*
PITTSTON	S-62	151.9
R.H. MACY	R-17	150.2*
RELIANCE GROUP HOLDINGS	F-29	145.6
AMBASE	I-15	145.0*
EQUITABLE VARIABLE LIFE	L-28	143.5†
CALFED	I-5	139.1*
CHARTER MEDICAL	S-95	130.0*
LOMAS FINANCIAL	F-48	119.1*
ITEL	S-61	114.2
TELE-COMMUNICATIONS	U-18	102.0*
TIME WARNER	S-5	99.0*
HAL	T-40	98.5*
NATIONAL GYPSUM	S-100	95.8*
PEOPLE'S BANK	I-13	90.9*
PACIFIC ENTERPRISES	S-16	88.0*
AMERITRUST CORP.	B-55	86.5*
CBS	S-39	85.8
OLD STONE CORP.	I-47	78.9
CONTINENTAL BANK CORP.	B-27	76.0
CHICAGO & NORTH WESTERN	T-26	72.5*
GND HOLDINGS	R-40	71.0*
MNC FINANCIAL	B-37	70.2*
TW HOLDINGS	R-33	67.6*
UNIONFED FINANCIAL	I-48	64.7*
SOCIETY FOR SAVINGS	I-34	64.5*
RIGGS NATIONAL CORP.	B-91	63.5*
MERITOR SAVINGS BANK	I-14	60.7*
GREATER N.Y. SAVINGS BANK	I-36	57.9*
DIAL	S-32	57.6
UNICORP AMERICAN CORP.	I-42	49.9*
VIACOM	S-69	49.7*
GRAND TRUNK	T-42	43.4*
FIRST FLORIDA BANKS	B-89	42.4*
CONSOLIDATED FREIGHTWAYS	T-13	40.4*
HOWARD SAVINGS BANK	I-22	33.1*
ROCHESTER COMMUN. SAV.	I-24	30.9
BANK OF BOSTON CORP.	B-21	26.6*
SIGNET BANKING CORP.	B-52	25.7
PEOPLES HERITAGE FIN. GRP.	I-46	21.3*
AMERICAN MEDICAL HLDGS.	S-48	19.0*
ALCO HEALTH SERVICES	S-42	14.5*
DISCOUNT CORP. OF N.Y.	F-37	13.6
ALEX. & ALEX. SVCS.	F-42	12.6
FORTUNE BANCORP	I-37	11.7*
CONTROL DATA	S-77	9.8
PENN TRAFFIC	R-43	8.0*
ROOSEVELT FINANCIAL GROUP	I-49	8.0
HOSPITAL CORP. OF AMERICA	S-23	5.3
PRESTON	T-35	3.4*
NORTHWEST AIRLINES	T-7	3.1*

*Also lost money in 1990.
†Net income for life insurance companies based on statutory accounting.

B—BANKING F—FINANCIAL I—SAVINGS L—LIFE INSURANCE R—RETAILING S—SERVICE T—TRANSPORTATION U—UTILITIES

CONTINUED

THE SERVICE 500 PERFORMANCE

Who were the real achievers this year? The stars that had the biggest sales increases, the highest profits, and the best investment returns? The tables on this and the following pages list the top 50 companies that produced stellar performances in each of 12 different categories. (You can find performance figures for all 500 companies in the master tables.)

Figures alone do not tell the full story. Take Fund American, for example. This diversified financial company had the highest returns on revenues, assets, and common equity, and it was the sixth most profitable company on the entire list. How come? Turns out it sold its main subsidiary, Fireman's Fund Insurance, in January 1991 and netted $1.3 billion after tax. Nice work if you can get it.

BIGGEST INCREASES IN SALES/REVENUES

RANK		500 RANK	SALES/ REVENUES % change from 1990	SALES/ REVENUES $ millions
1	20TH CENTURY FOX FILM	S-72	91.9	1,697.9
2	AMERICAN TEL. & TEL.	S-1	68.9	63,314.0
3	LEUCADIA NATIONAL	F-32	59.7	1,086.7
4	FIRST FINANCIAL MGMT.	S-80	59.2	1,473.1
5	MICROSOFT	S-64	55.3	1,885.2
6	GENERAL CINEMA	S-30	54.7	3,716.9
7	FEDERATED DEPT. STORES	R-16	51.5	6,932.3
8	MNX	T-44	45.0	288.9
9	CARDINAL DISTRIBUTION	S-96	35.2	1,184.3
10	WAL-MART STORES	R-2	34.6	43,886.9
11	NIKE	S-40	34.1	3,014.7
12	HOME DEPOT	R-28	34.0	5,136.7
13	MEDCO CONTAIN. SERVICES	S-85	33.8	1,342.7
14	FHP INTERNATIONAL	S-86	32.1	1,316.5
15	INTELLIGENT ELECTRONICS	S-63	31.4	1,919.2
16	U.S. HEALTHCARE	S-70	28.5	1,708.5
17	COSTCO WHOLESALE	R-27	28.4	5,305.1
18	JWP	S-31	27.1	3,594.4
19	PACIFICARE HEALTH SYS.	S-89	27.1	1,257.3
20	CHARLES SCHWAB	F-31	27.0	795.2
21	PENN CENTRAL	S-45	26.7	2,729.4
22	J.B. HUNT TRANSPORT	T-32	26.5	733.3
23	REEBOK INTERNATIONAL	S-44	26.3	2,746.4
24	WASTE MANAGEMENT	S-12	25.1	7,606.7
25	PRICE	R-18	24.4	6,756.0
26	INTERPUBLIC GROUP	S-74	22.6	1,677.5
27	ADVANTA	F-49	22.1	311.7
28	WERNER ENTERPRISES	T-43	21.4	306.1
29	HUMANA	S-18	20.6	5,928.0
30	MBIA	F-45	20.3	269.0
31	FOSTER WHEELER	S-58	20.1	2,031.6
32	CARGILL	S-2	19.9	49,148.0
33	COMMONWEALTH EDISON	U-12	19.3	6,275.5
34	MORRISON KNUDSEN	S-60	19.0	1,980.0
35	GTE	U-1	18.8	21,823.0
36	BINDLEY WESTERN	S-50	17.1	2,397.0
37	LIMITED	R-23	17.0	6,149.2
38	PIONEER HI-BRED INTL.	S-99	16.8	1,138.4
39	ELECTRONIC DATA SYSTEMS	S-13	16.2	7,099.0
40	COMPUTER SCIENCES	S-67	15.8	1,746.3
41	AIRBORNE FREIGHT	T-22	15.7	1,367.0
42	MORGAN STANLEY GROUP	F-8	15.6	6,785.1
43	KANSAS CITY SO. INDUS.	T-33	15.6	610.2
44	WABAN	R-42	15.5	2,783.6
45	OMI	T-46	15.4	283.6
46	SERVICEMASTER	S-56	15.4	2,115.8
47	FOOD LION	R-21	15.3	6,438.5
48	SERVISTAR	S-87	15.3	1,296.0
49	ARKLA	U-47	14.5	2,793.6
50	BALTIMORE GAS & ELECTRIC	U-34	13.9	2,459.5
	THE 500 MEDIAN		4.1	

Commercial banks, savings institutions, and life insurance companies are not included.

B—BANKING F—FINANCIAL I—SAVINGS L—LIFE INSURANCE R—RETAILING S—SERVICE T—TRANSPORTATION U—UTILITIES

CONTINUED

THE SERVICE 500 RANKED BY

PERFORMANCE

HIGHEST PROFITS

RANK		500 RANK	PROFITS $ millions	PROFITS % change from 1990
1	WAL-MART STORES	R-2	1,608.5	24.6
2	GTE	U-1	1,560.0	2.5
3	AMERICAN INTL. GROUP	F-6	1,553.0	7.7
4	BELLSOUTH	U-2	1,471.5	(9.8)
5	FED. NATL. MORTGAGE ASSN.	F-1	1,383.0	16.2
6	FUND AMERICAN	F-42	1,313.0	758.2
7	SEARS ROEBUCK	R-1	1,278.9	41.8
8	AMERITECH	U-8	1,165.5	(7.0)
9	J.P. MORGAN & CO.	B-5	1,146.0	14.0
10	BANKAMERICA CORP.	B-3	1,124.0	0.8
11	SOUTHWESTERN BELL	U-6	1,075.8	(2.3)
12	PACIFIC GAS & ELECTRIC	U-7	1,026.4	4.0
13	PACIFIC TELESIS GROUP	U-9	1,015.0	(1.5)
14	LOEWS	F-14	904.3	12.4
15	SOUTHERN	U-10	876.0	45.0
16	MCDONALD'S	R-20	859.6	7.1
17	KMART	R-3	859.0	13.6
18	FEDERATED DEPT. STORES	R-16	836.4	—
19	ITT	F-9	817.0	(14.7)
20	AMERICAN EXPRESS	F-2	789.0	335.9
21	SCECORP	U-13	702.6	(10.7)
22	UNITED PARCEL SERVICE	T-1	700.2	17.3
23	MERRILL LYNCH	F-5	696.1	262.8
24	BANKERS TRUST N.Y. CORP.	B-8	667.0	0.3
25	GENERAL RE	F-26	656.7	7.0
26	WALT DISNEY	S-17	636.6	(22.7)
27	WASTE MANAGEMENT	S-12	606.3	(11.5)
28	NYNEX	U-5	600.8	(36.7)
29	DUKE POWER	U-25	583.6	8.4
30	DETROIT EDISON	U-26	568.0	10.4
31	CONSOL. EDISON OF N.Y.	U-24	566.9	(0.8)
32	FED. HOME LOAN MORTGAGE	F-11	555.0	34.1
33	US WEST	U-4	553.4	(53.8)
34	CHUBB	F-24	552.0	5.7
35	MCI COMMUNICATIONS	S-9	551.0	84.3
36	ELECTRONIC DATA SYSTEMS	S-13	547.5	10.2
37	PUBLIC SERVICE ENT. GROUP	U-14	544.3	0.4
38	PHILADELPHIA ELECTRIC	U-19	534.7	149.6
39	BANC ONE CORP.	B-12	529.5	25.1
40	AMERICAN TEL. & TEL.	S-1	522.0	(80.9)
41	CHASE MANHATTAN CORP.	B-6	520.0	—
42	MAY DEPARTMENT STORES	R-10	515.0	3.0
43	DUN & BRADSTREET	S-27	508.5	0.1
44	PACIFICORP	U-17	507.2	7.0
45	SALOMON	F-3	507.0	67.3
46	AETNA LIFE & CASUALTY	F-4	505.2	(17.7)
47	AMERICAN ELECTRIC POWER	U-16	497.9	0.3
48	ENTERGY	U-15	482.0	0.8
49	AMERICAN GENERAL	F-15	480.0	(14.6)
50	PRIMERICA	F-19	478.8	28.4
	THE 500 MEDIAN		64.8	

Life insurance companies are not included in this table.

BIGGEST INCREASES IN PROFITS

RANK		500 RANK	PROFITS % change from 1990	PROFITS $ millions
1	WASHINGTON MUTUAL SAV.	I-12	7,197.7	67.5
2	TURNER BROADCASTING	S-79	1,759.3	85.9
3	KEMPER	F-21	1,622.1	204.5
4	ARKANSAS BEST	T-27	1,453.0	7.2
5	COAST SAVINGS FINANCIAL	I-10	1,349.0	41.7
6	STOP & SHOP	R-29	981.8	23.8
7	FUND AMERICAN	F-42	758.2	1,313.0
8	MNX	T-44	655.8	1.7
9	SFFED CORP.	I-31	622.3	14.7
10	PRUDENTIAL OF AMERICA	L-1	590.6	1,386.7
11	SUN LIFE CANADA (U.S.)	L-42	583.2	22.1
12	LINCOLN NATIONAL LIFE	L-13	502.1	210.8
13	TALMAN HOME FED.	I-16	471.1	75.4
14	PNC FINANCIAL CORP.	B-15	449.7	389.8
15	MINNESOTA MUTUAL LIFE	L-43	443.9	31.6
16	NATIONWIDE LIFE	L-19	401.6	20.3
17	VALLEY NATIONAL CORP.	B-53	360.6	34.6
18	MERIDIAN BANCORP	B-51	347.4	100.6
19	AMERICAN EXPRESS	F-2	335.9	789.0
20	MUTUAL OF AMERICA LIFE	L-50	318.1	95.0
21	FARM & HOME FINAN. CORP.	I-28	299.6	17.4
22	NORTHWESTERN MUTUAL LIFE	L-9	275.0	538.5
23	FIRSTFED MICHIGAN CORP.	I-9	269.6	34.0
24	MERRILL LYNCH	F-5	262.8	696.1
25	AMERICAN FINANCIAL	S-22	225.2	72.3
26	CRAGIN FINANCIAL CORP.	I-41	197.8	26.4
27	UNUM LIFE	L-31	195.7	101.7
28	CHARLES SCHWAB	F-31	194.8	49.5
29	NIAGARA MOHAWK POWER	U-29	193.6	243.4
30	20TH CENTURY FOX FILM	S-72	182.5	164.7
31	INTEGRA FINANCIAL	B-64	168.9	70.2
32	PHILADELPHIA ELECTRIC	U-19	149.6	534.7
33	PACIFIC MUTUAL LIFE	L-27	146.2	77.8
34	BEVERLY ENTERPRISES	S-53	125.4	29.2
35	AMERICAN LIFE	L-35	118.8	74.3
36	NATIONAL HOME LIFE	L-44	113.2	77.5
37	FIRST SAVINGS BANK	I-50	109.7	8.4
38	METROPOLITAN FINANCIAL	I-19	102.7	57.4
39	LEUCADIA NATIONAL	F-32	100.3	94.8
40	CORESTATES FINANCIAL CORP.	B-30	100.1	228.1
41	COLLECTIVE BANCORP	I-45	95.9	17.8
42	U.S. HEALTHCARE	S-70	94.9	251.1
43	TRANSAM. LIFE & ANNUITY	L-29	91.3	123.1
44	KEYPORT LIFE	L-32	90.3	69.1
45	TRANSAM. OCCIDENTAL LIFE	L-30	88.1	106.3
46	HARTFORD LIFE	L-18	86.9	92.6
47	CONNECTICUT GENERAL LIFE	L-7	85.4	453.5
48	MCI COMMUNICATIONS	S-9	84.3	551.0
49	MUTUAL OF NEW YORK	L-16	83.2	260.1
50	OMI	T-46	82.8	29.2
	THE 500 MEDIAN		5.4	

Net income for life insurance companies based on statutory accounting. Excludes companies that lost money in 1990.

B—BANKING F—FINANCIAL I—SAVINGS L—LIFE INSURANCE R—RETAILING S—SERVICE T—TRANSPORTATION U—UTILITIES

CONTINUED

THE SERVICE 500 RANKED BY

PERFORMANCE

HIGHEST RETURNS ON . . .

SALES/REVENUES

RANK		500 RANK	PROFITS as % of sales/ revenues
1	FUND AMERICAN	F-42	565.9
2	MBIA	F-45	53.8
3	EXXON PIPELINE	T-29	35.5
4	ARCO TRANS. ALASKA	T-38	31.4
5	COLONIAL PIPELINE	T-37	29.0
6	BP PIPELINES (ALASKA)	T-24	26.0
7	MICROSOFT	S-64	24.5
8	GENERAL RE	F-26	20.5
9	ARGONAUT GROUP	F-47	16.3
10	DETROIT EDISON	U-26	15.8
11	UNION ELECTRIC	U-42	15.3
12	DUKE POWER	U-25	15.3
13	CAROLINA POWER & LIGHT	U-32	13.9
14	PENNSYL. POWER & LIGHT	U-30	13.6
15	POTOMAC ELEC. POWER	U-41	13.5
16	PHILADELPHIA ELECTRIC	U-19	13.4
17	BENEFICIAL	F-30	13.2
18	CENTRAL & SOUTH WEST	U-28	13.2
19	FED. HOME LOAN MTG.	F-11	13.2
20	AUTOMATIC DATA PROC.	S-66	12.9
21	MCDONALD'S	R-20	12.8
22	PACIFICORP	U-17	12.7
23	CINCINNATI FINANCIAL	F-40	12.6
24	OVERSEAS SHIPHLDG. GRP.	T-39	12.5
25	ALEXANDER & BALDWIN	T-31	12.4
26	CHUBB	F-24	12.2
27	DOMINION RESOURCES	U-23	12.1
28	FEDERATED DEPT. STORES	R-16	12.1
29	LONG ISLAND LIGHTING	U-27	12.0
30	ENTERGY	U-15	11.9
31	ILLINOIS CENTRAL	T-36	11.8
32	H&R BLOCK	S-94	11.8
33	COMPUTER ASSOCIATES	S-84	11.7
34	SOUTHWESTERN BELL	U-6	11.5
35	OHIO EDISON	U-31	11.1
36	MARSH & MCLENNAN	F-44	11.0
37	UNITRIN	F-34	10.9
38	AMERICAN GENERAL	F-15	10.9
39	DUN & BRADSTREET	S-27	10.9
40	SOUTHERN	U-10	10.8
41	N.Y. STATE ELEC. & GAS	U-48	10.8
42	AMERITECH	U-8	10.8
43	PUBLIC SVC. ENT. GROUP	U-14	10.7
44	STUDENT LOAN MAR. ASSN.	F-12	10.6
45	PACIFIC GAS & ELECTRIC	U-7	10.4
46	OMI	T-46	10.3
47	BALTIMORE GAS & ELEC.	U-34	10.3
48	PACIFIC TELESIS GROUP	U-9	10.3
49	NORTHERN STATES POWER	U-50	10.2
50	BELLSOUTH	U-2	10.1
	THE 500 MEDIAN		3.0

ASSETS

RANK		500 RANK	PROFITS as % of assets
1	FUND AMERICAN	F-42	44.3
2	MICROSOFT	S-64	28.1
3	U.S. HEALTHCARE	S-70	19.9
4	COLONIAL PIPELINE	T-37	17.8
5	NIKE	S-40	16.8
6	REEBOK INTERNATIONAL	S-44	16.4
7	EXXON PIPELINE	T-29	16.3
8	AUTOMATIC DATA PROC.	S-66	14.5
9	GENUINE PARTS	S-33	14.2
10	H&R BLOCK	S-94	13.5
11	MARSH & MCLENNAN	F-44	12.8
12	ARCO TRANS. ALASKA	T-38	11.8
13	LIMITED	R-23	11.8
14	ALBERTSON'S	R-14	11.6
15	FEDERATED DEPT. STORES	R-16	11.2
16	DUN & BRADSTREET	S-27	10.6
17	W.W. GRAINGER	S-57	10.5
18	WAL-MART STORES	R-2	10.4
19	FOOD LION	R-21	10.3
20	BP PIPELINES (ALASKA)	T-24	10.2
21	SERVICEMASTER	S-56	10.2
22	GIANT FOOD	R-37	10.1
23	COMPUTER ASSOCIATES	S-84	10.0
24	HOME DEPOT	R-28	9.9
25	PUBLIX SUPER MARKETS	R-22	9.7
26	ELECTRONIC DATA SYS.	S-13	9.6
27	PIONEER HI-BRED INTL.	S-99	9.6
28	WINN-DIXIE STORES	R-11	9.4
29	WALGREEN	R-19	9.3
30	WESTAIR HOLDINGS	T-49	9.1
31	BRUNO'S	R-47	8.6
32	ROADWAY SERVICES	T-16	8.6
33	MELVILLE	R-13	8.5
34	MEDCO CONTAIN. SVCS.	S-85	8.3
35	LONGS DRUG STORES	R-50	8.2
36	KELLY SERVICES	S-82	8.1
37	HUMANA	S-18	8.0
38	PACIFICARE HEALTH SYS.	S-89	8.0
39	UNITED PARCEL SERVICE	T-1	7.9
40	FHP INTERNATIONAL	S-86	7.6
41	MCDONALD'S	R-20	7.6
42	TOYS "R" US	R-24	7.5
43	WORLDCORP	T-45	7.5
44	COSTCO WHOLESALE	R-27	7.4
45	WERNER ENTERPRISES	T-43	7.3
46	PRICE	R-18	7.3
47	SYSCO	S-11	7.1
48	MERCANTILE STORES	R-48	6.8
49	WALT DISNEY	S-17	6.8
50	NATL. MED. ENTERPRISES	S-29	6.7
	THE 500 MEDIAN		1.1

COMMON EQUITY

RANK		500 RANK	PROFITS as % of common equity
1	FUND AMERICAN	F-42	111.4
2	ARA GROUP	S-26	106.6
3	SERVICE MERCHANDISE	R-36	72.9
4	SERVICEMASTER	S-56	70.5
5	WESTAIR HOLDINGS	T-49	43.7
6	U.S. HEALTHCARE	S-70	43.6
7	STUDENT LOAN MAR. ASSN.	F-12	35.7
8	MICROSOFT	S-64	34.3
9	MARSH & MCLENNAN	F-44	29.5
10	REEBOK INTERNATIONAL	S-44	28.5
11	NIKE	S-40	27.8
12	ANCHOR BANCORP	I-11	26.8
13	LEUCADIA NATIONAL	F-32	25.9
14	PACIFICARE HEALTH SYS.	S-89	25.8
15	SAFEWAY	R-8	25.6
16	MBNA	B-87	25.2
17	ILLINOIS CENTRAL	T-36	25.1
18	FOOD LION	R-21	24.8
19	CHARLES SCHWAB	F-31	24.8
20	FED. NATL. MTG. ASSN.	F-1	24.6
21	H&R BLOCK	S-94	24.4
22	ARKANSAS BEST	T-27	24.4
23	DUN & BRADSTREET	S-27	23.5
24	METROPOLITAN FINANCIAL	I-19	23.4
25	WAL-MART STORES	R-2	23.0
26	TURNER CORP.	S-46	22.5
27	WETTERAU	S-19	22.4
28	BANKERS TRUST N.Y. CORP.	B-8	21.7
29	AUTOMATIC DATA PROC.	S-66	21.6
30	FED. HOME LOAN MTG.	F-11	21.6
31	ALBERTSON'S	R-14	21.5
32	LIMITED	R-23	21.5
33	GIANT FOOD	R-37	21.4
34	ADVANTA	F-49	21.2
35	J.P. MORGAN & CO.	B-5	20.2
36	WINN-DIXIE STORES	R-11	19.9
37	WASH. FED. S&L ASSN.	I-38	18.8
38	DETROIT EDISON	U-26	18.8
39	MERRILL LYNCH	F-5	18.8
40	MORGAN STANLEY GROUP	F-8	18.7
41	GENUINE PARTS	S-33	18.4
42	UNITED PARCEL SERVICE	T-1	18.1
43	WALGREEN	R-19	18.0
44	TALMAN HOME FED.	I-16	17.9
45	PAINE WEBBER GROUP	F-18	17.9
46	MAY DEPARTMENT STORES	R-10	17.9
47	CHARTER ONE FINANCIAL	I-26	17.8
48	HUMANA	S-18	17.7
49	MCI COMMUNICATIONS	S-9	17.6
50	PRICE	R-18	17.6
	THE 500 MEDIAN		11.3

Returns on sales/revenues exclude commercial banks, savings institutions, and life insurance companies. Returns on assets and common equity exclude life insurance companies.

B—BANKING F—FINANCIAL I—SAVINGS L—LIFE INSURANCE R—RETAILING S—SERVICE T—TRANSPORTATION U—UTILITIES

CONTINUED

THE SERVICE 500 RANKED BY

PERFORMANCE

HIGHEST TOTAL RETURN TO INVESTORS

1 YEAR

RANK		500 RANK	1991 %
1	ANCHOR BANCORP	I-11	392.0
2	CHARLES SCHWAB	F-31	303.6
3	AMERITRUST CORP.	B-55	290.2
4	ADVANTA	F-49	248.1
5	COLLECTIVE BANCORP	I-45	217.2
6	COAST SAVINGS FINANCIAL	I-10	215.8
7	WESTERN CAPITAL INVEST.	I-44	212.5
8	LOMAS FINANCIAL	F-48	211.4
9	MERRILL LYNCH	F-5	192.5
10	REEBOK INTERNATIONAL	S-44	192.5
11	FED. HOME LOAN MTG.	F-11	188.0
12	WASHINGTON MUTUAL SAV.	I-12	184.5
13	METROPOLITAN FINANCIAL	I-19	183.2
14	FIRST AMERICAN CORP.	B-82	182.4
15	ILLINOIS CENTRAL	T-36	182.3
16	TALMAN HOME FED.	I-16	178.6
17	MERCHANTS NATL. CORP.	B-88	176.5
18	AMERICAN PRESIDENT	T-18	171.8
19	MICHIGAN NATIONAL CORP.	B-54	170.1
20	HOME DEPOT	R-28	162.2
21	PAINE WEBBER GROUP	F-18	161.9
22	MEDCO CONTAIN. SVCS.	S-85	161.4
23	TCF FINANCIAL CORP.	I-23	161.1
24	VALLEY NATIONAL CORP.	B-53	160.9
25	FOOD LION	R-21	155.6
26	FARM & HOME FIN. CORP.	I-28	153.8
27	PHM	S-93	153.1
28	TELE-COMMUNICATIONS	U-18	151.5
29	MERIDIAN BANCORP	B-51	151.3
30	BALLY MANUFACTURING	S-78	147.1
31	SOUTHTRUST CORP.	B-56	146.6
32	WORLDCORP	T-45	145.7
33	CIRCLE K	R-34	144.8
34	FIRST COMMERCE CORP.	B-97	144.8
35	STANDARD FEDERAL BANK	I-8	143.7
36	PACIFICARE HEALTH SYS.	S-89	143.1
37	SIGNET BANKING CORP.	B-52	140.4
38	WESTCORP	I-40	139.6
39	MORGAN STANLEY GROUP	F-8	138.8
40	FLEET/NORSTAR FINAN.	B-14	137.3
41	COMMERCIAL FED. CORP.	I-18	134.2
42	PNC FINANCIAL CORP.	B-15	132.9
43	COSTCO WHOLESALE	R-27	131.1
44	CHARTER ONE FINANCIAL	I-26	129.9
45	CENTRAL FIDELITY BANKS	B-76	129.8
46	MICROSOFT	S-64	121.8
47	SERVICE MERCHANDISE	R-36	119.4
48	FIRST FINANCIAL CORP.	I-33	119.0
49	SANTA FE PACIFIC	T-19	117.4
50	CONSOLIDATED RAIL	T-15	115.9
	THE 500 MEDIAN		40.3

10 YEARS

RANK		500 RANK	1981-91 annual rate %
1	HOME DEPOT	R-28	64.0
2	CIRCUIT CITY STORES	R-49	50.1
3	LIMITED	R-23	48.8
4	WAL-MART STORES	R-2	46.8
5	DILLARD DEPT. STORES	R-31	45.8
6	FOOD LION	R-21	39.8
7	FED. NATL. MTG. ASSN.	F-1	39.4
8	TELE-COMMUNICATIONS	U-18	36.7
9	STATE ST. BOSTON CORP.	B-41	35.5
10	FIFTH THIRD BANCORP	B-66	34.4
11	GIANT FOOD	R-37	34.4
12	VONS	R-26	34.2
13	GOLDEN WEST FIN. CORP.	I-3	33.2
14	LEUCADIA NATIONAL	F-32	32.6
15	WALGREEN	R-19	31.2
16	MANUF. NATIONAL CORP.	B-44	31.0
17	ALBERTSON'S	R-14	30.6
18	CENTR. BANCSH. (SOUTH)	B-84	30.3
19	INTERPUBLIC GROUP	S-74	30.0
20	SOUTHTRUST CORP.	B-56	29.9
21	NBD BANCORP	B-24	29.5
22	FIRST EMPIRE STATE CORP.	B-62	29.3
23	COMPUTER ASSOCIATES	S-84	29.2
24	KEYCORP	B-28	29.1
25	TURNER BROADCASTING	S-79	28.8
26	TOYS "R" US	R-24	28.8
27	KROGER	R-4	28.8
28	FIRST HAWAIIAN	B-81	28.5
29	NIKE	S-40	28.5
30	MARSHALL & ILSLEY CORP.	B-73	28.4
31	BRUNO'S	R-47	28.4
32	H&R BLOCK	S-94	28.0
33	CENTRAL FIDELITY BANKS	B-76	27.7
34	NORTHERN TRUST CORP.	B-46	27.7
35	WASTE MANAGEMENT	S-12	27.4
36	CHUBB	F-24	27.0
37	COMERICA	B-43	26.9
38	LOEWS	F-14	26.9
39	ALEXANDER & BALDWIN	T-31	26.9
40	BANC ONE CORP.	B-12	26.6
41	OLD KENT FINAN. CORP.	B-65	26.4
42	SYSCO	S-11	26.3
43	DOWNEY S&L ASSN.	I-25	26.1
44	CORESTATES FINAN. CORP.	B-30	26.0
45	GENERAL PUBLIC UTILITIES	U-33	26.0
46	FIRSTAR CORP.	B-48	26.0
47	NORDSTROM	R-38	26.0
48	MERCAN. BANKSH. CORP.	B-95	25.9
49	WALT DISNEY	S-17	25.7
50	MERCHANTS NATL. CORP.	B-88	25.4
	THE 500 MEDIAN		18.2

GREATEST GROWTH IN EARNINGS PER SHARE

10 YEARS

RANK		500 RANK	1981-91 annual growth rate%
1	HOME DEPOT	R-28	63.1
2	WAL-MART STORES	R-2	43.0
3	MCI COMMUNICATIONS	S-9	42.1
4	COMPUTER ASSOCIATES	S-84	38.3
5	PRICE	R-18	35.3
6	LEUCADIA NATIONAL	F-32	34.8
7	STUDENT LOAN MAR. ASSN.	F-12	32.9
8	LIMITED	R-23	32.4
9	FIRST FINANCIAL CORP.	I-33	27.7
10	JWP	S-31	27.5
11	RYLAND GROUP	S-92	27.3
12	NIKE	S-40	25.8
13	MANUF. NATIONAL CORP.	B-44	23.9
14	DILLARD DEPT. STORES	R-31	22.7
15	CENTR. BANCSH. (SOUTH)	B-84	22.3
16	GIANT FOOD	R-37	20.5
17	TOYS "R" US	R-24	20.0
18	COMMERCE BANCSHARES	B-77	19.3
19	FIRST EMPIRE STATE CORP.	B-62	17.9
20	FOOD LION	R-21	17.8
21	WALT DISNEY	S-17	17.8
22	BRUNO'S	R-47	17.7
23	WASTE MANAGEMENT	S-12	17.6
24	SERVICEMASTER	S-56	17.5
25	LOEWS	F-14	17.4
26	ALBERTSON'S	R-14	16.9
27	STATE ST. BOSTON CORP.	B-41	16.9
28	SYSCO	S-11	16.8
29	INTERPUBLIC GROUP	S-74	16.8
30	PAINE WEBBER GROUP	F-18	16.6
31	MERCHANTS NATL. CORP.	B-88	16.5
32	ALEXANDER & BALDWIN	T-31	16.3
33	NORDSTROM	R-38	16.1
34	PHM	S-93	15.8
35	WALGREEN	R-19	15.8
36	AUTOMATIC DATA PROC.	S-66	15.3
37	COMDISCO	S-55	14.8
38	FIRST HAWAIIAN	B-81	14.2
39	AIRBORNE FREIGHT	T-22	14.1
40	MCDONALD'S	R-20	13.8
41	GENERAL RE	F-26	13.7
42	AMERICAN INTL. GROUP	F-6	13.6
43	HARRIS BANKCORP	B-42	13.6
44	FIFTH THIRD BANCORP	B-66	13.5
45	HUMANA	S-18	13.3
46	KMART	R-3	13.2
47	CINCINNATI FINANCIAL	F-40	13.2
48	SUPER FOOD SERVICES	S-65	13.0
49	CHUBB	F-24	12.9
50	GEICO	F-35	12.9
	THE 500 MEDIAN		5.5

Total return includes stock price increase or decrease, plus dividends. Life insurance companies are not included in the tables on this page.

B—BANKING F—FINANCIAL I—SAVINGS L—LIFE INSURANCE R—RETAILING S—SERVICE T—TRANSPORTATION U—UTILITIES

CONTINUED

THE SERVICE 500 RANKED BY

PERFORMANCE

HIGHEST MARKET VALUE

RANK		500 RANK	$ millions 4/16/92
1	WAL-MART STORES	R-2	62,816
2	AMERICAN TEL. & TEL.	S-1	56,170
3	GTE	U-1	28,334
4	MICROSOFT	S-64	22,927
5	BELLSOUTH	U-2	22,096
6	WALT DISNEY	S-17	19,879
7	WASTE MANAGEMENT	S-12	19,868
8	SOUTHWESTERN BELL	U-6	18,466
9	AMERICAN INTL. GROUP	F-6	18,417
10	FED. NATL. MTG. ASSN.	F-1	18,154
11	BELL ATLANTIC	U-3	16,878
12	PACIFIC TELESIS GROUP	U-9	16,743
13	AMERITECH	U-8	16,185
14	SEARS ROEBUCK	R-1	16,002
15	MCDONALD'S	R-20	15,356
16	NYNEX	U-5	15,231
17	US WEST	U-4	14,194
18	HOME DEPOT	R-28	14,013
19	PACIFIC GAS & ELECTRIC	U-7	13,049
20	NATIONSBANK CORP.	B-4	11,276
21	AMERICAN EXPRESS	F-2	10,860
22	KMART	R-3	10,467
23	UNION PACIFIC	T-8	10,456
24	SOUTHERN	U-10	10,377
25	TOYS "R" US	R-24	10,254
26	J.P. MORGAN & CO.	B-5	10,163
27	DUN & BRADSTREET	S-27	10,038
28	TIME WARNER	S-5	9,735
29	BANKAMERICA CORP.	B-3	9,521
30	SCECORP	U-13	9,451
31	NORFOLK SOUTHERN	T-11	9,221
32	LIMITED	R-23	9,045
33	MCI COMMUNICATIONS	S-9	8,690
34	BANC ONE CORP.	B-12	8,657
35	CHEMICAL BANKING CORP.	B-2	8,289
36	TEXAS UTILITIES	U-11	8,059
37	GENERAL RE	F-26	7,902
38	CAPITAL CITIES/ABC	S-20	7,788
39	J.C. PENNEY	R-6	7,664
40	ITT	F-9	7,495
41	LOEWS	F-14	7,439
42	TELE-COMMUNICATIONS	U-18	7,434
43	FED. HOME LOAN MTG.	F-11	7,202
44	MAY DEPARTMENT STORES	R-10	7,074
45	DUKE POWER	U-25	6,934
46	COMMONWEALTH EDISON	U-12	6,859
47	FOOD LION	R-21	6,690
48	CSX	T-5	6,455
49	AUTOMATIC DATA PROC.	S-66	6,424
50	CONSOL. EDISON OF N.Y.	U-24	6,250
THE 500 MEDIANS			1,393

MOST ASSETS

RANK		500 RANK	$ millions
1	CITICORP	B-1	216,922
2	PRUDENTIAL OF AMERICA	L-1	148,418
3	FED. NATL. MTG. ASSN.	F-1	147,072
4	AMERICAN EXPRESS	F-2	146,411
5	CHEMICAL BANKING CORP.	B-2	138,930
6	BANKAMERICA CORP.	B-3	115,509
7	METROPOLITAN LIFE	L-2	110,799
8	NATIONSBANK CORP.	B-4	110,319
9	SEARS ROEBUCK	R-1	106,435
10	J.P. MORGAN & CO.	B-5	103,468
11	CHASE MANHATTAN CORP.	B-6	98,197
12	SALOMON	F-3	97,402
13	AETNA LIFE & CASUALTY	F-4	91,988
14	MERRILL LYNCH	F-5	86,259
15	SECURITY PACIFIC CORP.	B-7	76,411
16	AMERICAN INTL. GROUP	F-6	69,389
17	CIGNA	F-7	66,737
18	BANKERS TRUST N.Y. CORP.	B-8	63,959
19	MORGAN STANLEY GROUP	F-8	63,709
20	TEACHERS INS. & ANNUITY	L-3	55,576
21	ITT	F-9	53,867
22	WELLS FARGO & CO.	B-9	53,547
23	AMERICAN TEL. & TEL.	S-1	53,355
24	TRAVELERS CORP.	F-10	52,709
25	AETNA LIFE	L-4	52,355
26	EQUITABLE LIFE ASSURANCE	L-5	50,353
27	FIRST CHICAGO CORP.	B-10	48,963
28	1ST INTERSTATE BANCORP	B-11	48,922
29	H.F. AHMANSON	I-1	47,226
30	FED. HOME LOAN MTG.	F-11	46,860
31	BANC ONE CORP.	B-12	46,293
32	FIRST UNION CORP.	B-13	46,085
33	FLEET/NORSTAR FINANCIAL	B-14	45,445
34	STUDENT LOAN MAR. ASSN.	F-12	45,320
35	PNC FINANCIAL CORP.	B-15	44,892
36	NEW YORK LIFE	L-6	42,750
37	GTE	U-1	42,437
38	CONNECTICUT GEN. LIFE	L-7	41,692
39	GREAT WESTERN FIN. CORP.	I-2	39,600
40	BANK OF NEW YORK CO.	B-16	39,426
41	BEAR STEARNS	F-13	39,285
42	LOEWS	F-14	39,195
43	NORWEST CORP.	B-17	38,502
44	JOHN HANCOCK MUT. LIFE	L-8	36,220
45	AMERICAN GENERAL	F-15	36,105
46	NORTHWESTERN MUT. LIFE	L-9	35,744
47	TRAVELERS	L-10	35,663
48	SUNTRUST BANKS	B-18	34,054
49	TRANSAMERICA	F-16	33,682
50	WACHOVIA CORP.	B-19	33,158
THE 500 MEDIANS			5,982

BIGGEST EMPLOYERS

RANK		500 RANK	Number of employees
1	SEARS ROEBUCK	R-1	450,000
2	WAL-MART STORES	R-2	364,000
3	KMART	R-3	348,000
4	AMERICAN TEL. & TEL.	S-1	317,100
5	UNITED PARCEL SERVICE	T-1	256,076
6	MARRIOTT	S-8	202,000
7	J.C. PENNEY	R-6	185,000
8	KROGER	R-4	170,000
9	MCDONALD'S	R-20	168,000
10	GTE	U-1	162,000
11	DAYTON HUDSON	R-7	157,000
12	AMERICAN STORES	R-5	148,000
13	WOOLWORTH	R-12	144,000
14	ARA GROUP	S-26	135,000
15	AMR	T-2	116,284
16	MAY DEPARTMENT STORES	R-10	115,000
17	TW HOLDINGS	R-33	112,000
18	AMERICAN EXPRESS	F-2	110,729
19	MELVILLE	R-13	110,148
20	SAFEWAY	R-8	110,064
21	ITT	F-9	110,000
22	WINN-DIXIE STORES	R-11	106,000
23	GREAT ATL. & PACIFIC TEA	R-9	99,300
24	BELLSOUTH	U-2	96,084
25	BEVERLY ENTERPRISES	S-53	93,000
26	CITICORP	B-1	86,000
27	BORG-WARNER	S-51	85,400
28	NYNEX	U-5	83,871
29	LIMITED	R-23	83,800
30	UAL	T-3	81,800
31	FEDERAL EXPRESS	T-6	81,711
32	FEDERATED DEPT. STORES	R-16	78,900
33	BELL ATLANTIC	U-3	75,700
34	AMERITECH	U-8	73,987
35	HALLIBURTON	S-14	73,400
36	HUMANA	S-18	70,500
37	HOSPITAL CORP. OF AMER.	S-23	70,000
38	ELECTRONIC DATA SYS.	S-13	69,886
39	R.H. MACY	R-17	69,500
40	PRUDENTIAL OF AMERICA	L-1	69,189
41	PUBLIX SUPER MARKETS	R-22	68,000
42	DELTA AIR LINES	T-4	66,512
43	US WEST	U-4	65,829
44	WASTE MANAGEMENT	S-12	63,040
45	PACIFIC TELESIS GROUP	U-9	62,236
46	SOUTHWESTERN BELL	U-6	61,200
47	ALBERTSON'S	R-14	60,000
48	CARGILL	S-2	60,000
49	DUN & BRADSTREET	S-27	58,500
50	WALT DISNEY	S-17	58,000
THE 500 MEDIANS			8,000

Life insurance companies are not included in this table

B—BANKING F—FINANCIAL I—SAVINGS L—LIFE INSURANCE R—RETAILING S—SERVICE T—TRANSPORTATION U—UTILITIES

CONTINUED

THE SERVICE 500 BY STATE

Where do the Service 500 live? In 42 states, the District of Columbia, plus a commonwealth. Home ranges from New York, where 71 companies are headquartered, to Puerto Rico, which boasts one, Banponce Corp., the nation's 67th-largest bank. How many of the 500 are in your state? And how do you reach them if you have something to sell or tell them? These tables provide phone numbers for the company headquarters.

They are also an interesting sociological document. For all the worms in the Big Apple, New York City is by far the most popular service center, followed by Chicago. And some things never change. Hartford is still an insurance city: Eight of the ten service companies headquartered there are in the rainy day business.

WHERE THE HEADQUARTERS ARE

RANK		Service 500	Industrial 500	Total
1	NEW YORK	71	56	127
2	CALIFORNIA	55	44	99
3	ILLINOIS	36	46	82
4	TEXAS	31	39	70
5	OHIO	25	34	59
6	PENNSYLVANIA	25	34	59
7	CONNECTICUT	20	28	48
8	MINNESOTA	17	16	33
9	NEW JERSEY	17	22	39
10	MASSACHUSETTS	16	15	31
11	MICHIGAN	16	20	36
12	MISSOURI	16	12	28
13	GEORGIA	14	11	25
14	VIRGINIA	13	13	26
15	WASHINGTON	12	5	17
16	FLORIDA	11	7	18
17	MARYLAND	10	4	14
18	NORTH CAROLINA	10	5	15
19	DISTRICT OF COLUMBIA	7	3	10
20	TENNESSEE	7	2	9
21	DELAWARE	6	4	10
22	ALABAMA	5	5	10
23	ARIZONA	5	2	7
24	ARKANSAS	5	4	9
25	INDIANA	5	11	16
26	LOUISIANA	5	4	9
27	WISCONSIN	5	12	17
28	HAWAII	4	—	4
29	OREGON	4	5	9
30	COLORADO	3	6	9
31	IDAHO	3	1	4
32	NEBRASKA	3	3	6
33	IOWA	2	5	7
34	KENTUCKY	2	2	4
35	MAINE	2	—	2
36	RHODE ISLAND	2	4	6
37	SOUTH CAROLINA	2	4	6
38	UTAH	2	1	3
39	ALASKA	1	—	1
40	KANSAS	1	2	3
41	MISSISSIPPI	1	1	2
42	OKLAHOMA	1	4	5
43	PUERTO RICO	1	—	1
44	VERMONT	1	—	1
45	NEW HAMPSHIRE	—	2	2
46	WEST VIRGINIA	—	2	2

States without headquarters are not listed.

THE FAVORITE CITIES

Cities with ten or more headquarters

1	NEW YORK	55	39	94
2	CHICAGO	21	19	40
3	DALLAS	14	12	26
4	LOS ANGELES	14	7	21
5	SAN FRANCISCO	12	5	17
6	HOUSTON	11	16	27
7	ATLANTA	10	6	16
8	HARTFORD	10	2	12

THE SERVICE 500 BY

STATE

RANK		ASSETS $ millions	PROFITS* $ millions	RANK	HEADQUARTERS	CEO
ALABAMA 5 COMPANIES						
1 SOUTHTRUST CORP.	B-56	10,158.1	90.0		Birmingham	Wallace D. Malone Jr.
2 AMSOUTH BANCORP.	B-60	9,459.3	80.4		Birmingham	John W. Woods
3 FIRST ALA. BANCSHARES	B-78	6,745.1	78.3		Montgomery	J. Stanley Mackin
4 CENTR. BANCSH. OF SOUTH	B-84	6,121.9	59.4		Birmingham	D. Paul Jones Jr.
5 BRUNO'S	R-47	773.2	66.7	4	Birmingham	Ronald G. Bruno
TOTAL		33,257.5	374.7			
MEDIAN		6,745.1	78.3			
ALASKA 1 COMPANY						
1 BP PIPELINES (ALASKA)	T-24	3,100.7	317.2		Anchorage	Donald Nyberg
TOTAL		3,100.7	317.2			
ARIZONA 5 COMPANIES						
1 VALLEY NATIONAL CORP.	B-53	10,651.7	34.6		Phoenix	Richard J. Lehmann
2 PINNACLE WEST	U-37	6,482.7	(186.9)		Phoenix	Richard Snell
3 DIAL	S-32	3,592.4	(57.6)		Phoenix	John W. Teets
4 CIRCLE K	R-34	1,143.9	(307.0)		Phoenix	Bart A. Brown Jr.
5 AMERICA WEST AIRLINES	T-21	1,111.1	(222.0)		Phoenix	Michael J. Conway
TOTAL		22,981.8	(738.9)			
MEDIAN		3,592.4	(186.9)			
ARKANSAS 5 COMPANIES						
1 WAL-MART STORES	R-2	15,443.4	1,608.5		Bentonville	David D. Glass
2 DILLARD DEPT. STORES	R-31	3,498.5	206.2		Little Rock	William T. Dillard Sr.
3 BEVERLY ENTERPRISES	S-53	1,673.4	29.2		Fort Smith	David R. Banks
4 J.B. HUNT TRANSPORT	T-32	520.1	27.9		Lowell	J. Kirk Thompson
5 ARKANSAS BEST	T-27	447.1	7.2		Fort Smith	Robert A. Young III
TOTAL		21,582.6	1,878.9			
MEDIAN		1,673.4	29.2			
CALIFORNIA 55 COMPANIES						
1 BANKAMERICA CORP.	B-3	115,509.0	1,124.0		San Francisco	Richard M. Rosenberg
2 SECURITY PACIFIC CORP.	B-7	76,411.0	(774.5)	54	Los Angeles	Robert J. Smith
3 WELLS FARGO & CO.	B-9	53,547.0	21.0	40	San Francisco	Carl E. Reichardt
4 FIRST INTERSTATE BANCORP	B-11	48,922.1	(288.1)	53	Los Angeles	Edward M. Carson
5 H.F. AHMANSON	I-1	47,226.2	245.8	8	Los Angeles	Richard H. Deihl
6 GREAT WESTERN FINAN. CORP	I-2	39,599.6	298.1	6	Beverly Hills	James F. Montgomery
7 TRANSAMERICA	F-16	33,682.3	50.1	28	San Francisco	Frank C. Herringer
8 GOLDEN WEST FINAN. CORP.	I-3	24,297.8	238.6	9	Oakland	H. M. Sandler M. O. Sandler
9 PACIFIC GAS & ELECTRIC	U-7	22,900.7	1,026.4	2	San Francisco	Richard A. Clarke
10 PACIFIC TELESIS GROUP	U-9	21,838.0	1,015.0	3	San Francisco	Sam L. Ginn
11 GLENFED	I-4	21,501.1	(231.7)	52	Glendale	Stephen J. Trafton
12 CALFED	I-5	18,395.4	(139.1)	50	Los Angeles	Jerry St. Dennis
13 UNION BANK	B-36	17,473.7	93.5	18	San Francisco	Taisuke Shimizu
14 SCECORP	U-13	16,828.2	702.6	4	Rosemead	John E. Bryson
15 HOMEFED CORP.	I-6	13,885.2	(807.7)	55	San Diego	Thomas J. Wageman
16 PACIFIC MUTUAL LIFE	L-27	10,650.0	77.8	21	Newport Beach	Thomas C. Sutton

*Net income for life insurance companies based on statutory accounting

B BANKING F FINANCIAL I SAVINGS L LIFE INSURANCE R RETAILING S SERVICE T TRANSPORTATION U UTILITIES

CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
17	WALT DISNEY	S-17	9,428.5	636.6	5	Burbank 818-560-1000	Michael D. Eisner
18	TRANSAM. LIFE & ANNUITY	L-29	9,077.4	123.1	15	Los Angeles 213-742-3111	Richard J. Eskoff
19	TRANSAM. OCCIDENTAL LIFE	L-30	8,621.3	106.3	16	Los Angeles 213-742-2111	David R. Carpenter
20	COAST SAVINGS FINANCIAL	I-10	8,595.7	41.7	31	Los Angeles 213-362-2000	Ray Martin
21	BANK OF CALIFORNIA	B-69	8,480.5	(187.6)	51	San Francisco 415-765-0400	Yasumasa Gomi
22	SANWA BANK CALIFORNIA	B-74	7,454.2	38.6	33	Los Angeles 213-896-7000	Masahiro Yoda
23	PACIFIC ENTERPRISES	S-16	6,701.0	(88.0)	49	Los Angeles 213-895-5000	Willis B. Wood
24	SUN LIFE OF AMERICA	L-47	5,585.9	60.1	24	Los Angeles 310-312-5000	Eli Broad
25	SUMITOMO BANK OF CALIF.	B-94	5,281.1	42.9	30	San Francisco 415-445-8000	Tadaichi Ikagawa
26	SAFEWAY	R-8	5,181.2	54.9	26	Oakland 510-891-3000	Peter A. Magowan
27	CITADEL HOLDING CORP.	I-17	5,126.5	2.7	45	Glendale 818-956-7100	William C. Walbrecher
28	CHARLES SCHWAB	F-31	5,025.9	49.5	29	San Francisco 415-398-1000	Charles R. Schwab
29	SOUTHERN PACIFIC TRANS.	T-17	4,834.1	1.5	46	San Francisco 415-541-1000	P. F. Anschutz
30	NATL. MED. ENTERPRISES	S-29	4,060.0	272.0	*	Santa Monica 310-315-8000	Richard K. Eamer
31	DOWNEY S&L ASSN.	I-25	3,778.1	24.9	38	Newport Beach 714-854-3100	Robert L. Kemper
32	SFFED CORP.	I-31	3,317.5	14.7	41	San Francisco 415-955-5800	Roger L. Gordon
33	FIRSTFED FINANCIAL	I-32	3,287.1	28.4	35	Santa Monica 310-319-6000	William S. Mortensen
34	DOLE FOOD	S-35	2,793.0	133.7	14	Westlake Village 818-879-6600	David H. Murdock
35	20TH CENTURY FOX FILM	S-72	2,786.9	164.7	10	Los Angeles 213-277-2211	Joe Roth
36	BAY VIEW CAPITAL CORP.	I-39	2,709.5	9.0	43	San Mateo 415-573-7300	Robert E. Barnes
37	WESTCORP	I-40	2,689.0	21.1	39	Irvine 714-727-1000	Stephen W. Prough
38	MCKESSON	S-10	2,460.9	100.7	17	San Francisco 415-983-8300	Alan Seelenfreund
39	FLUOR	S-15	2,421.4	160.8	11	Irvine 714-975-2000	Leslie G. McCraw
40	CONSOLIDATED FREIGHTWAYS	T-13	2,285.5	(40.4)	47	Palo Alto 415-494-2900	Donald E. Moffitt
41	UNIONFED FINANCIAL	I-48	2,152.8	(64.7)	48	Brea 714-255-8100	David S. Engelman
42	FREMONT GENERAL	F-46	1,963.6	31.2	34	Santa Monica 310-315-5500	James A. McIntyre
43	ARGONAUT GROUP	F-47	1,946.2	84.4	19	Los Angeles 310-553-0561	Charles E. Rinsch
44	PRICE	R-18	1,845.5	134.1	13	San Diego 619-581-4600	Robert E. Price
45	VONS	R-26	1,802.6	83.1	20	Arcadia 818-821-7000	Roger E. Stangeland
46	AMERICAN PRESIDENT	T-18	1,513.9	53.9	27	Oakland 510-272-8000	John M. Lillie
47	KAUFMAN & BROAD HOME	S-91	1,373.0	26.5	36	Los Angeles 310-443-8000	Bruce E. Karatz
48	ARCO TRANS. ALASKA	T-38	1,333.3	157.6	12	Long Beach 310-590-4412	Orville D. Harris
49	BERGEN BRUNSWIG	S-25	1,322.3	64.1	23	Orange 714-385-4000	Robert E. Martini
50	COMPUTER SCIENCES	S-67	1,006.8	65.0	22	El Segundo 310-615-0311	William R. Hoover
51	LONGS DRUG STORES	R-50	672.8	55.4	25	Walnut Creek 510-937-1170	Robert M. Long
52	FHP INTERNATIONAL	S-86	528.8	40.1	32	Fountain Valley 714-963-7233	Westcott W. Price III
53	RYKOFF-SEXTON	S-81	405.2	13.8	42	Los Angeles 213-622-4131	Roger W. Coleman
54	PACIFICARE HEALTH SYS.	S-89	322.3	25.7	37	Cypress 714-952-1121	Terry Hartshorn
55	WESTAIR HOLDINGS	T-49	79.0	7.2	44	Fresno 209-294-6915	Timothy P. Flynn
TOTAL			722,917.6	5,200.8			
MEDIAN			5,025.9	50.1			

COLORADO 3 COMPANIES

1	US WEST	U-4	27,854.1	553.4	1	Englewood 303-793-6500	Richard D. McCormick
2	TELE-COMMUNICATIONS	U-18	13,010.0	(102.0)	3	Denver 303-267-5500	John C. Malone
3	WESTERN CAPITAL INVEST.	I-44	2,523.7	5.9	2	Denver 303-623-5577	Robert J. Malone
TOTAL			43,387.8	457.3			

CONNECTICUT 20 COMPANIES

1	AETNA LIFE & CASUALTY	F-4	91,967.6	505.2	3	Hartford 203-273-0123	Ronald E. Compton
2	TRAVELERS CORP.	F-10	52,709.0	318.0	5	Hartford 203-277-0111	Edward H. Budd
3	AETNA LIFE	L-4	52,355.0	310.3	6	Hartford 203-273-0123	Ronald E. Compton
4	GTE	U-1	42,437.0	1,580.0	1	Stamford 203-965-2000	Charles R. Lee
5	CONNECTICUT GENERAL LIFE	L-7	41,692.3	453.5	4	Bloomfield 203-726-6000	George R. Trumbull
6	TRAVELERS	L-10	35,662.7	191.7	8	Hartford 203-277-0111	Edward H. Budd
7	HARTFORD LIFE	L-18	16,263.2	92.6	10	Hartford 203-525-8555	Donald R. Frahm
8	AETNA LIFE & ANNUITY	L-23	13,442.1	96.8	9	Hartford 203-273-0123	Thomas L. West Jr.*
9	GENERAL RE	F-26	12,415.9	656.7	2	Stamford 203-328-5000	Ronald E. Ferguson

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CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
10	CONNECTICUT MUTUAL LIFE	L-25	11,111.6	24.1	13	Hartford 203-727-6500	Denis F. Mullane
11	NORTHEAST UTILITIES	U-36	6,781.7	236.7	7	Berlin 203-665-5000	William B. Ellis
12	PHOENIX MUTUAL LIFE	L-39	6,629.5	56.9	11	Hartford 203-275-5000	John Gummere
13	PEOPLE'S BANK	L-13	5,989.2	(90.9)	18	Bridgeport 203-338-7171	David E.A. Carson
14	NORTHEAST FEDERAL CORP.	L-20	4,558.2	11.7	14	Hartford 203-280-1000	George P. Rutland
15	SOCIETY FOR SAVINGS	L-34	2,989.0	(64.5)	16	Hartford 203-727-5000	Lawrence Connell
16	GND HOLDINGS	R-40	1,538.3	(71.0)	17	Riverside 201-890-6000	Gary D. Hirsch
17	W.R. BERKLEY	F-50	1,526.0	46.6	12	Greenwich 203-629-2880	William R. Berkley
18	AMES DEPARTMENT STORES	R-41	1,355.8	(282.4)	20	Rocky Hill 203-257-2000	Stephen L. Pistner
19	PITTSTON	S-62	1,240.1	(151.9)	19	Stamford 203-978-5200	Joseph C. Farrell
20	LANDSTAR HOLDING	T-34	165.1	3.6	15	Stamford 203-329-9735	Jeffrey C. Crowe
TOTAL			402,849.5	3,923.8			
MEDIAN			8,948.7	74.8			

DELAWARE 6 COMPANIES

1	NEW YORK LIFE & ANNUITY	L-24	11,613.4	91.2	4	Wilmington 212-576-7000	Lee M. Gammill Jr.
2	BENEFICIAL	F-30	9,972.3	148.8	2	Wilmington 302-798-0800	Finn M.W. Caspersen
3	AMERICAN LIFE	L-35	7,266.4	74.3	5	Wilmington 302-594-2000	R. Kendall Nottingham
4	COLUMBIA GAS SYSTEM	U-38	6,332.2	(694.4)	6	Wilmington 302-429-5000	John H. Croom
5	MBNA	B-87	6,009.0	149.2	1	Newark 302-453-9930	Alfred Lerner
6	MERCANTILE STORES	R-48	1,673.1	114.0	3	Wilmington 302-575-1816	David L. Nichols
TOTAL			42,866.4	(116.9)			
MEDIAN			6,799.3	102.6			

DISTRICT OF COLUMBIA 7 COMPANIES

1	FED. NATL. MORTGAGE ASSN.	F-1	147,072.0	1,363.0	1	Washington 202-752-7000	James A. Johnson
2	STUDENT LOAN MAR. ASSN.	F-12	45,320.1	345.1	3	Washington 202-333-8000	Lawrence A. Hough
3	MCI COMMUNICATIONS	S-9	8,834.0	551.0	2	Washington 202-872-1600	Bert C. Roberts Jr.
4	FIRST AMER. BANKSHARES	B-70	8,392.2	(358.3)	7	Washington 202-383-1400	George L. Davis
5	POTOMAC ELECTRIC POWER	U-41	5,853.8	210.2	4	Washington 202-872-2000	Edward F. Mitchell
6	RIGGS NATIONAL CORP.	B-91	5,535.8	(63.5)	6	Washington 202-835-6000	Joseph L. Allbritton
7	GEICO	F-35	4,085.8	196.4	5	Washington 301-986-2500	William B. Snyder
TOTAL			225,093.7	2,243.9			
MEDIAN			8,392.2	210.2			

FLORIDA 11 COMPANIES

1	BARNETT BANKS	B-20	32,720.5	123.8	5	Jacksonville 904-791-7720	Charles E. Rice
2	FPL GROUP	U-22	11,281.8	240.6	1	North Palm Beach 407-694-4000	James L. Broadhead
3	FIRST FLORIDA BANKS	B-89	5,770.0	(42.4)	11	Tampa 813-224-1455	Paul M. Homan
4	RYDER SYSTEM	S-21	5,080.1	14.0	8	Miami 305-593-3726	M. Anthony Burns
5	FLORIDA PROGRESS	U-45	5,024.9	172.1	2	St. Petersburg 813-824-6400	Jack B. Critchfield
6	CSF HOLDINGS	I-21	4,384.5	14.6	7	Miami 305-577-0400	Charles B. Stuzin
7	AMERICAN SAVINGS OF FLA.	I-30	3,373.3	19.7	6	Miami 305-653-5353	Stephen D. Taylor
8	FORTUNE BANCORP	I-37	2,788.1	(11.7)	10	Clearwater 813-538-1000	John R. Torell III
9	WINN-DIXIE STORES	R-11	1,817.5	170.9	3	Jacksonville 904-783-5000	A. Dano Davis
10	PUBLIX SUPER MARKETS	R-22	1,623.7	158.0	4	Lakeland 813-688-1188	Howard M. Jenkins
11	JACK ECKERD	R-32	1,410.0	2.6	9	Largo 813-397-7461	Stewart Turley
TOTAL			75,274.4	862.3			
MEDIAN			4,384.5	19.7			

GEORGIA 14 COMPANIES

1	SUNTRUST BANKS	B-18	34,553.6	370.7	4	Atlanta 404-588-7711	James B. Williams
2	BELLSOUTH	U-2	30,941.7	1,471.5	1	Atlanta 404-249-2000	John L. Clendenin
3	SOUTHERN	U-10	19,863.0	876.0	2	Atlanta 404-393-0650	Edward L. Addison
4	UNITED PARCEL SERVICE	T-1	8,858.6	700.2	3	Atlanta 404-913-6000	Kent C. Nelson
5	AMERICAN FAMILY LIFE	L-33	8,475.9	164.2	7	Columbus 404-323-3431	Daniel P. Amos

CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
6	DELTA AIR LINES	T-4	8,410.7	(324.4)	13	Atlanta 404-715-2600	Ronald W. Allen
7	FIRST FINANCIAL MGMT.	S-80	5,497.4	89.0	9	Atlanta 404-321-0120	Patrick H. Thomas
8	OGLETHORPE POWER	U-44	5,246.4	N.A.		Tucker 404-270-7600	T. D. Kilgore
9	OFSOUTHEASTERN	I-43	2,559.6	3.5	11	Decatur 404-371-4000	Robert C. McMahan
10	HOME DEPOT	R-28	2,510.3	249.1	5	Atlanta 404-433-8211	Bernard Marcus
11	TURNER BROADCASTING	S-79	2,397.2	85.9	10	Atlanta 404-827-1700	Robert E. Turner
12	GENUINE PARTS	S-33	1,467.0	207.7	6	Atlanta 404-953-1700	Larry L. Prince
13	CHARTER MEDICAL	S-95	1,347.1	(130.0)	12	Macon 912-742-1161	William A. Fickling Jr.
14	COLONIAL PIPELINE	T-37	848.4	151.2	8	Atlanta 404-261-1470	Donald R. Brinkley
TOTAL			132,976.9	3,914.6			
MEDIAN			5,371.9	164.2			
HAWAII 4 COMPANIES							
1	BANCORP HAWAII	B-50	11,409.3	112.7	1	Honolulu 808-537-8111	Howard H. Stephenson
2	FIRST HAWAIIAN	B-81	6,510.6	81.7	3	Honolulu 808-525-7000	Walter A. Dods Jr.
3	ALEXANDER & BALDWIN	T-31	1,555.0	92.4	2	Honolulu 808-525-6611	John C. Couch
4	HAL	T-40	133.8	(98.5)	4	Honolulu 808-525-5511	John A. Ueberroth
TOTAL			19,608.6	188.3			
MEDIAN			4,032.8	87.1			
IDAHO 3 COMPANIES							
1	WEST ONE BANC	B-93	5,417.2	41.2	2	Boise 208-383-7000	Daniel R. Nelson
2	ALBERTSON'S	R-14	2,216.2	257.8	1	Boise 208-385-6200	Gary G. Michael
3	MORRISON KNUDSEN	S-60	1,034.1	35.1	3	Boise 208-386-5000	William J. Agee
TOTAL			8,667.6	334.1			
ILLINOIS 36 COMPANIES							
1	SEARS ROEBUCK	R-1	106,434.8	1,278.9	1	Chicago 312-875-2500	Edward A. Brennan
2	FIRST CHICAGO CORP.	B-10	48,963.0	116.3	14	Chicago 312-732-4000	Richard L. Thomas
3	HOUSEHOLD INTERNATIONAL	F-17	29,982.3	149.8	8	Prospect Heights 708-564-5000	Donald C. Clark
4	CONTINENTAL BANK CORP.	B-27	24,008.0	(76.0)	33	Chicago 312-828-2345	Thomas C. Theobald
5	AMERITECH	U-8	22,289.7	1,165.5	2	Chicago 312-750-5000	William L. Weiss
6	ALLSTATE LIFE	L-15	17,933.9	139.6	9	Northbrook 708-402-5000	Wayne E. Hedien
7	COMMONWEALTH EDISON	U-12	17,365.3	94.9	20	Chicago 312-294-4321	James J. O'Connor
8	KEMPER	F-21	14,696.6	204.5	6	Long Grove 708-540-2000	David B. Mathis
9	HARRIS BANKCORP	B-42	14,480.9	104.1	17	Chicago 312-461-2121	B. Kenneth West
10	STATE FARM LIFE	L-21	13,651.7	104.8	16	Bloomington 309-766-2311	Marvin D. Bower
11	NORTHERN TRUST CORP.	B-46	13,192.5	127.4	13	Chicago 312-630-6000	David W. Fox
12	WASTE MANAGEMENT	S-12	12,572.3	606.3	4	Oak Brook 708-572-8800	Dean L. Buntrock
13	AON	F-28	11,633.2	242.0	5	Chicago 312-701-3000	Patrick G. Ryan
14	MCDONALD'S	R-20	11,349.1	859.6	3	Oak Brook 708-575-3000	Michael R. Quinlan
15	CONTINENTAL ASSURANCE	L-26	10,943.7	96.0	19	Chicago 312-822-5000	Edward J. Noha
16	UAL	T-3	9,876.3	(331.9)	35	Elk Grove 708-952-4000	Stephen M. Wolf
17	LASALLE NATIONAL CORP.	B-68	8,651.9	85.8	22	Chicago 312-443-2000	Harrison F. Tempest
18	KEMPER INVESTORS LIFE	L-37	6,696.0	4.1	31	Chicago 312-781-1121	John B. Scott
19	ILLINOIS POWER	U-43	5,271.8	109.2	15	Decatur 217-424-6600	Larry D. Haab
20	SANTA FE PACIFIC	T-19	5,220.6	96.4	18	Schaumberg 708-995-6000	Robert D. Krebs
21	TALMAN HOME FED.	I-16	5,140.2	75.4	23	Chicago 312-443-2000	William H. Tyda
22	COMDISCO	S-55	5,006.0	69.0	24	Rosemont 708-698-3000	Kenneth N. Pontikes
23	UNITRIN	F-34	4,271.6	137.2	10	Chicago 312-661-4600	Richard C. Vie
24	OLD REPUBLIC INTL.	F-36	3,713.2	131.0	11	Chicago 312-346-8100	Aldo C. Zucaro
25	ST. PAUL BANCORP	I-27	3,663.2	27.2	27	Chicago 312-622-5000	Joseph C. Scully
26	ITEL	S-61	2,752.3	(114.2)	34	Chicago 312-902-1515	Samuel Zell
27	CRAGIN FINANCIAL CORP.	I-41	2,650.1	26.4	28	Chicago 312-889-1000	Adam A. Jahns
28	BORG-WARNER	S-51	2,201.8	10.5	30	Chicago 312-322-8500	Donald C. Trauscht
29	BALLY MANUFACTURING	S-78	2,120.4	21.5	29	Chicago 312-399-1300	Arthur M. Goldberg
30	WALGREEN	R-19	2,094.6	195.0	7	Deerfield 708-940-2500	Charles R. Walgreen III

CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
31	CHICAGO & NORTH WESTERN	T-26	2,089.0	(72.5)	32	Chicago 312-559-7000	Robert W. Schmiege
32	CBI INDUSTRIES	S-75	1,478.9	61.1	26	Oak Brook 708-572-7000	John E. Jones
33	W.W. GRAINGER	S-57	1,216.6	127.7	12	Skokie 708-982-9000	David W. Grainger
34	ILLINOIS CENTRAL	T-36	1,183.5	65.4	25	Chicago 312-819-7500	Edward L. Moyers
35	SERVICEMASTER	S-56	843.7	86.0	21	Downers Grove 708-964-1300	C. William Pollard
36	ACE HARDWARE	S-71	541.0	N.A.		Oak Brook 708-990-6600	Roger E. Peterson
TOTAL			446,179.6	6,024.1			
MEDIAN			5,983.9	96.4			
INDIANA 5 COMPANIES							
1	LINCOLN NATIONAL LIFE	L-13	23,530.7	210.8	1	Fort Wayne 219-455-2000	Ian M. Rolland
2	INB FINANCIAL CORP.	B-80	6,555.8	48.1	2	Indianapolis 317-266-6000	Thomas M. Miller
3	MERCHANTS NATL. CORP.	B-88	5,806.3	5.8	4	Indianapolis 317-267-7000	Otto N. Frenzel III
4	BINDLEY WESTERN	S-50	495.9	11.4	3	Indianapolis 317-298-9900	William E. Bindley
5	HARDWARE WHOLESALERS	S-98	318.3	N.A.		Fort Wayne 219-749-8531	Donald A. Wolf
TOTAL			36,706.9	276.2			
MEDIAN			5,806.3	29.8			
IOWA 2 COMPANIES							
1	PRINCIPAL MUTUAL LIFE	L-11	31,499.4	330.2	1	Des Moines 515-247-5111	G. David Hurd
2	PIONEER HI-BRED INTL.	S-99	1,085.7	104.2	2	Des Moines 515-245-3500	Thomas N. Urban
TOTAL			32,585.1	434.4			
KANSAS 1 COMPANY							
1	YELLOW FREIGHT SYSTEM	T-20	1,097.8	26.7	1	Overland Park 913-345-3000	George E. Powell III
TOTAL			1,097.8	26.7			
KENTUCKY 2 COMPANIES							
1	CAPITAL HOLDING	F-20	18,873.0	250.2	2	Louisville 502-560-2000	Irving W. Bailey II
2	HUMANA	S-18	4,427.0	355.0	1	Louisville 502-580-1000	David A. Jones
TOTAL			23,300.0	605.2			
LOUISIANA 5 COMPANIES							
1	ENTERGY	U-15	14,383.1	482.0	1	New Orleans 504-529-5262	Edwin A. Lupberger
2	HIBERNIA CORP.	B-86	6,018.4	(165.6)	5	New Orleans 504-586-5552	Stephen A. Hansel
3	FIRST COMMERCE CORP.	B-97	4,995.5	34.0	2	New Orleans 504-561-1371	Ian Arnof
4	ARKLA	U-47	4,969.6	13.4	4	Shreveport 318-429-2700	Thomas F. McLarty III
5	INTL. SHIPHOLDING	T-41	497.0	15.2	3	New Orleans 504-529-5461	Niels W. Johnsen
TOTAL			30,863.7	379.0			
MEDIAN			4,995.5	15.2			
MAINE 2 COMPANIES							
1	UNUM LIFE	L-31	8,572.5	101.7	1	Portland 207-770-2211	James F. Orr III
2	PEOPLES HERITAGE FINAN.	I-46	2,498.7	(21.3)	2	Portland 207-761-8500	William J. Ryan
TOTAL			11,071.2	80.4			
MARYLAND 10 COMPANIES							
1	MNC FINANCIAL	B-37	17,438.2	(70.2)	9	Baltimore 410-547-4000	Frank P. Bramble
2	USF&G	F-22	14,456.0	(176.0)	10	Baltimore 410-547-3000	Norman P. Blake Jr.
3	FIRST MARYLAND BANCORP	B-63	8,945.5	75.1	4	Baltimore 410-347-6000	Charles W. Cole Jr.
4	BALTIMORE GAS & ELECTRIC	U-34	7,078.8	253.4	1	Baltimore 410-234-5000	George V. McGowan
5	MARRIOTT	S-8	6,400.0	82.0	3	Bethesda 301-380-9000	J. Willard Marriott Jr.
6	MERCANTILE BANKSH. CORP.	B-95	5,182.9	70.6	5	Baltimore 410-237-5900	H. Furlong Baldwin

CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
7	PHH	S-59	4,198.7	47.1	6	Hunt Valley 410-771-3600	Robert D. Kunisch
8	RYLAND GROUP	S-92	3,559.3	9.5	7	Columbia 410-715-7000	Roger W. Schipke
9	GIANT FOOD	R-37	1,175.0	118.9	2	Landover 410-341-4100	Israel Cohen
10	PRESTON	T-35	292.1	(3.4)	8	Preston 410-673-2900	William B. Potter
TOTAL			68,726.4	406.9			
MEDIAN			5,791.4	58.8			
MASSACHUSETTS 16 COMPANIES							
1	JOHN HANCOCK MUTUAL LIFE	L-8	36,220.2	209.0	2	Boston 617-572-6000	Stephen L. Brown
2	BANK OF BOSTON CORP.	B-21	32,700.2	(26.6)	14	Boston 617-434-2200	Ira Stepanian
3	MASS. MUTUAL LIFE	L-12	29,290.6	176.8	3	Springfield 413-788-8411	Thomas B. Wheeler
4	SHAWMUT NATIONAL CORP.	B-29	22,815.5	(170.6)	15	Boston 617-292-2000	John P. Hamill
5	NEW ENGLAND MUTUAL LIFE	L-17	16,947.8	48.0	8	Boston 617-578-2000	Robert A. Shafto
6	STATE ST. BOSTON CORP.	B-41	15,046.3	139.3	4	Boston 617-786-3000	Marshall N. Carter
7	BAYBANKS	B-59	9,515.8	9.7	13	Boston 617-482-1040	William M. Crozier Jr.
8	KEYPORT LIFE	L-32	8,512.7	69.1	6	Boston 617-526-1400	Robert G. Sharp
9	STATE MUTUAL OF AMERICA	L-40	6,584.2	86.3	5	Worcester 508-855-1000	John F. O'Brien
10	SUN LIFE CANADA (U.S.)	L-42	6,385.5	22.1	11	Wellesley Hills 617-237-6030	David Horn
11	GENERAL CINEMA	S-30	6,208.3	(293.1)	16	Chestnut Hill 617-232-8200	Robert J. Tarr, Jr.
12	HANOVER INSURANCE	F-38	3,560.4	48.7	7	Worcester 508-853-7200	John F. O'Brien
13	STOP & SHOP	R-29	1,958.8	23.8	10	Braintree 617-380-8000	Lewis G. Schaeneman Jr.
14	REEBOK INTERNATIONAL	S-44	1,430.8	234.7	1	Stoughton 617-341-5000	Paul B. Fireman
15	TJX	R-44	1,105.3	20.1	12	Framingham 508-390-2000	Bernard Cammarata
16	WABAN	R-42	786.4	30.0	9	Natick 508-651-6500	John F. Levy
TOTAL			199,068.9	627.2			
MEDIAN			7,548.4	39.0			
MICHIGAN 16 COMPANIES							
1	NBD BANCORP	B-24	29,513.5	293.0	3	Detroit 313-225-1000	Charles T. Fisher III
2	FIRST OF AMER. BANK CORP.	B-39	16,755.0	134.9	5	Kalamazoo 616-376-9000	Daniel R. Smith
3	KMART	R-3	15,999.0	859.0	1	Troy 313-643-1000	Joseph E. Antonini
4	COMERICA	B-43	14,450.8	153.4	4	Detroit 313-222-3300	Eugene A. Miller
5	JACKSON NATIONAL LIFE	L-22	13,601.8	89.0	8	Lansing 517-394-3400	David A. Pasant
6	MANUF. NATIONAL CORP.	B-44	13,544.2	120.2	6	Detroit 313-222-4000	Gerald V. MacDonald
7	MICHIGAN NATIONAL CORP.	B-54	10,650.2	50.1	10	Farmington Hills 313-473-3000	Robert J. Mylod
8	DETROIT EDISON	U-26	10,463.6	568.0	2	Detroit 313-237-8000	John E. Lobbia
9	STANDARD FEDERAL BANK	I-8	9,513.9	65.8	9	Troy 313-643-9600	Thomas R. Ricketts
10	FIRSTFED MICHIGAN CORP.	I-9	9,415.2	34.0	13	Detroit 313-965-1400	C. Gene Harling
11	OLD KENT FINANCIAL CORP.	B-65	8,826.1	93.0	7	Grand Rapids 616-771-5000	John C. Canepa
12	CMS ENERGY	U-39	6,194.0	(275.6)	16	Dearborn 313-436-9200	William T. McCormick Jr
13	PHM	S-93	3,634.8	40.7	11	Bloomfield Hills 313-647-2750	William J. Pulte
14	GREAT LAKES BANCORP	I-35	2,887.0	2.2	14	Ann Arbor 313-769-8300	Robert J. Delonis
15	GRAND TRUNK	T-42	494.5	(43.4)	15	Detroit 313-396-6000	Ronald E. Lawless
16	KELLY SERVICES	S-82	479.4	38.6	12	Troy 313-362-4444	Terence E. Adderley
TOTAL			166,423.1	2,223.0			
MEDIAN			9,988.8	77.4			
MINNESOTA 17 COMPANIES							
1	NORWEST CORP.	B-17	38,501.6	398.5	2	Minneapolis 612-667-1234	Lloyd P. Johnson
2	IDS LIFE	L-14	19,508.7	174.6	7	Minneapolis 612-372-3131	Jeffrey E. Stiefler
3	FIRST BANK SYSTEM	B-33	18,301.0	190.4	6	Minneapolis 612-973-1111	John F. Grundhofer
4	CARGILL	S-2	13,909.0	350.8	3	Minnetonka 612-475-7575	Whitney MacMillan
5	ST. PAUL	F-25	12,982.4	405.1	1	St. Paul 612-221-7911	Douglas W. Leatherdale
6	DAYTON HUDSON	R-7	9,485.0	301.0	4	Minneapolis 612-370-6948	Kenneth A. Macke
7	NWA	T-7	8,005.8	(3.1)	13	Eagan 612-726-2111	John H. Dasburg
8	MINNESOTA MUTUAL LIFE	L-43	6,177.3	31.6	10	St. Paul 612-298-3500	Coleman Bloomfield
9	NORTHERN STATES POWER	U-50	4,750.9	224.0	5	Minneapolis 612-330-5500	James J. Howard

CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
10	METROPOLITAN FINANCIAL	I-19	4,667.7	57.4	9	Minneapolis 612-928-5000	Paul A. Lipetzky
11	TCF FINANCIAL CORP.	I-23	4,036.8	19.0	12	Minneapolis 612-370-7000	William A. Cooper
12	SUPER VALU STORES	S-6	2,615.1	155.1	8	Eden Prairie 612-828-4000	Michael W. Wright
13	CONTROL DATA	S-77	1,213.8	(9.8)	14	Minneapolis 612-853-8100	Lawrence Perlman
14	ECOLAB	S-88	921.9	(243.6)	15	St. Paul 612-293-2233	Pierson M. Grieve
15	FARMERS UNION	S-73	734.0	N.A.		Inver Grove Hgts. 612-451-5151	Noel K. Estenson
16	HARVEST STATES COOPS.	S-38	468.6	N.A.		St. Paul 612-646-9433	Allen D. Hanson
17	NASH FINCH	S-52	429.6	19.1	11	St. Louis Park 612-929-0371	Harold B. Finch Jr.
TOTAL			146,709.3	2,070.2			
MEDIAN			4,750.9	155.1			
MISSISSIPPI 1 COMPANY							
1	DEPOSIT GUARANTY CORP.	B-96	5,058.8	32.2	1	Jackson 601-354-8564	Howard McMillan
TOTAL			5,058.8	32.2			
MISSOURI 16 COMPANIES							
1	SOUTHWESTERN BELL	U-6	23,179.4	1,075.8	1	St. Louis 314-235-9800	Edward E. Whitacre Jr.
2	BOATMEN'S BANCSHARES	B-35	17,634.7	150.1	5	St. Louis 314-466-6000	Andrew B. Craig III
3	SPRINT	S-7	10,463.8	367.5	3	Kansas City 913-624-3000	William T. Esrey
4	MAY DEPARTMENT STORES	R-10	8,728.0	515.0	2	St. Louis 314-342-6300	David C. Farrell
5	MERCANTILE BANCORP.	B-71	8,088.9	66.6	7	St. Louis 314-425-2525	Thomas H. Jacobsen
6	COMMERCE BANCSHARES	B-77	6,765.4	59.8	8	Kansas City 816-234-2000	David W. Kemper
7	GENERAL AMERICAN LIFE	L-38	6,672.0	53.6	9	St. Louis 314-231-1700	Richard A. Liddy*
8	UNION ELECTRIC	U-42	5,733.5	321.5	4	St. Louis 314-621-3222	William E. Cornelius
9	UNITED MISSOURI BANCSH.	B-100	4,692.1	39.5	12	Kansas City 816-860-7000	R. Crosby Kemper
10	FARM & HOME FINAN. CORP.	I-28	3,637.9	17.4	13	Kansas City 816-891-7778	John Morton III
11	ROOSEVELT FINAN. GROUP	I-49	2,119.9	(8.0)	16	St. Louis 314-532-6200	Stanley J. Bradshaw
12	WETTERAU	S-19	1,159.8	51.1	10	Hazelwood 314-524-5000	Ted C. Wetterau
13	KANSAS CITY SO. INDUS.	T-33	1,091.9	41.9	11	Kansas City 816-556-0303	Landon H. Rowland
14	H&R BLOCK	S-94	1,035.8	140.1	6	Kansas City 816-753-6900	Henry W. Bloch
15	UNIGROUP	T-28	327.7	11.5	14	Fenton 314-326-3100	Maurice Greenblatt
16	MNX	T-44	83.1	1.7	15	St. Joseph 816-233-3158	J. Michael Head
TOTAL			101,413.8	2,905.1			
MEDIAN			5,212.8	56.7			
NEBRASKA 3 COMPANIES							
1	COMMERCIAL FEDERAL CORP.	I-18	5,077.9	20.8	1	Omaha 402-554-9200	William A. Fitzgerald
2	PETER KIEWIT SONS'	S-34	2,632.0	N.A.		Omaha 402-342-2052	Walter Scott Jr.
3	WERNER ENTERPRISES	T-43	247.1	18.0	2	Omaha 402-895-6640	Clarence L. Werner
TOTAL			7,957.1	38.8			
NEW JERSEY 17 COMPANIES							
1	PRUDENTIAL OF AMERICA	L-1	148,417.6	1,386.7	1	Newark 201-802-6000	Robert C. Winters
2	1ST FIDELITY BANCORP.	B-23	30,215.2	221.2	7	Lawrenceville 201-565-3200	Anthony P. Terracciano
3	MIDLANTIC CORP.	B-34	18,170.3	(543.3)	17	Edison 908-321-8000	Garry J. Scheuring
4	PUBLIC SERVICE ENT. GROUP	U-14	14,824.4	544.3	3	Newark 201-430-7000	E. James Ferland
5	CHUBB	F-24	13,774.7	552.0	2	Warren 908-580-2000	Dean R. O'Hare
6	UJB FINANCIAL	B-45	13,377.7	22.4	12	Princeton 609-987-3200	T. Joseph Semrod
7	GENERAL PUBLIC UTILITIES	U-33	7,404.9	275.9	5	Parsippany 201-263-6500	James R. Leva
8	AMBASE	I-15	5,257.0	(145.0)	15	Morristown 201-326-1070	Richard A. Bianco
9	TOYS "R" US	R-24	4,548.3	339.5	4	Paramus 201-262-7800	Charles Lazarus
10	HOWARD SAVINGS BANK	I-22	4,067.1	(33.1)	14	Newark 201-533-7400	William P. Tuggle III
11	HERTZ	S-47	3,824.2	48.4	10	Park Ridge 201-307-2000	Frank A. Olson
12	GREAT ATL. & PACIFIC TEA	R-9	3,307.5	151.0	8	Montvale 201-573-9700	James Wood
13	COLLECTIVE BANCORP	I-45	2,505.4	17.8	13	Egg Harbor 609-625-1110	Thomas H. Hamilton
14	SUPERMARKETS GENERAL	R-25	1,736.2	(402.4)	16	Woodbridge 908-499-3000	Jack Futterman

*Replaced H. Edwin Trusheim as CEO, May 16, 1992

CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
15	FOSTER WHEELER	S-58	1,634.7	43.3	11	Clinton 908-730-4000	Louis E. Azzato
16	AUTOMATIC DATA PROC.	S-66	1,564.9	227.7	6	Roseland 201-994-5000	Joshua S. Weston
17	MEDCO CONTAIN. SERVICES	S-85	701.8	58.5	9	Montvale 201-358-5400	Martin J. Wygod
TOTAL			275,331.9	2,764.7			
MEDIAN			4,548.3	58.5			

NEW YORK 71 COMPANIES

1	CITICORP	B-1	216,922.0	(457.0)	71	New York 212-559-1000	John S. Reed
2	AMERICAN EXPRESS	F-2	146,411.0	789.0	5	New York 212-640-2000	James D. Robinson III
3	CHEMICAL BANKING CORP.	B-2	138,930.0	154.0	31	New York 212-310-6161	John F. McGillicuddy
4	METROPOLITAN LIFE	L-2	110,799.5	237.0	23	New York 212-578-2211	Robert G. Schwartz
5	J.P. MORGAN & CO.	B-5	103,468.0	1,146.0	2	New York 212-483-2323	Dennis Weatherstone
6	CHASE MANHATTAN CORP.	B-6	98,197.0	520.0	11	New York 212-552-2222	Thomas G. Labrecque
7	SALOMON	F-3	97,402.0	507.0	13	New York 212-783-7000	Warren E. Buffett
8	MERRILL LYNCH	F-5	86,259.3	696.1	6	New York 212-449-1000	Daniel P. Tully
9	AMERICAN INTL. GROUP	F-6	69,389.5	1,553.0	1	New York 212-770-7000	Maurice R. Greenberg
10	BANKERS TRUST N.Y. CORP.	B-8	63,959.0	667.0	7	New York 212-250-2500	Charles S. Sanford Jr.
11	MORGAN STANLEY GROUP	F-8	63,709.1	475.1	15	New York 212-703-4000	Richard B. Fisher
12	TEACHERS INS. & ANNUITY	L-3	55,575.8	331.6	18	New York 212-490-9000	Clifton R. Wharton Jr.
13	ITT	F-9	53,867.0	817.0	4	New York 212-258-1000	Rand V. Araskog
14	AMERICAN TEL. & TEL.	S-1	53,355.0	522.0	10	New York 212-605-5500	Robert E. Allen
15	EQUITABLE LIFE ASSURANCE	L-5	50,352.8	75.5	40	New York 212-554-1234	Richard H. Jenrette
16	NEW YORK LIFE	L-6	42,749.5	221.3	25	New York 212-576-7000	Harry G. Hohn
17	BANK OF NEW YORK CO.	B-16	39,426.0	122.0	36	New York 212-495-1784	J. Carter Bacot
18	BEAR STEARNS	F-13	39,284.9	142.9	34	New York 212-272-2000	Alan C. Greenberg
19	LOEWS	F-14	39,195.4	904.3	3	New York 212-545-2000	P. R. Tisch/L. A. Tisch
20	REPUBLIC NEW YORK CORP.	B-22	31,220.8	227.4	24	New York 212-525-5000	Walter H. Weiner
21	NYNEX	U-5	27,502.6	600.8	8	New York 212-370-7400	William C. Ferguson
22	TIME WARNER	S-5	24,889.0	(99.0)	62	New York 212-484-8000	S. J. Ross/G. M. Levin
23	KEYCORP	B-28	23,155.5	188.1	27	Albany 518-486-8500	Victor J. Riley Jr.
24	PAINE WEBBER GROUP	F-18	22,621.8	150.7	32	New York 212-713-2000	Donald B. Marron
25	PRIMERICA	F-19	21,560.6	478.8	14	New York 212-891-8900	Sanford I. Weill
26	NATL. WESTMIN. BANCORP	B-31	21,459.1	(371.5)	70	New York 212-602-1000	John Tugwell
27	MUTUAL OF NEW YORK	L-16	17,493.5	260.1	21	New York 212-708-2000	James B. Farley
28	MARINE MIDLAND BANKS	B-38	16,946.8	(189.9)	68	Buffalo 716-841-2424	John R.H. Bond
29	CONTINENTAL	F-23	14,047.5	56.4	47	New York 212-440-3000	John P. Mascotte
30	RELIANCE GROUP HOLDINGS	F-29	11,252.9	(145.6)	64	New York 212-909-1100	Saul P. Steinberg
31	CONSOL. EDISON OF N.Y.	U-24	11,107.9	566.9	9	New York 212-460-4600	Eugene R. McGrath
32	EQUITABLE VARIABLE LIFE	L-28	10,103.4	(143.5)	63	New York 212-554-2065	Joseph J. Melone
33	DIME SAVINGS BANK OF N.Y.	I-7	9,898.1	(237.4)	69	New York 212-326-6000	Richard D. Parsons
34	LONG ISLAND LIGHTING	U-27	9,543.3	305.5	19	Hicksville 516-933-4590	William J. Catacosinos
35	BANK OF TOKYO TRUST	B-61	9,234.6	2.0	54	New York 212-766-3400	Koretsugu Kodama
36	FIRST EMPIRE STATE CORP.	B-62	9,171.1	67.2	41	Buffalo 716-842-5789	Robert G. Wilmers
37	ANCHOR BANCORP	I-11	8,415.4	65.8	42	Hewlett 516-596-3900	James M. Large Jr.
38	NIAGARA MOHAWK POWER	U-29	8,241.5	243.4	22	Syracuse 315-474-1511	William J. Donlon
39	GUARDIAN LIFE OF AMERICA	L-36	6,793.6	182.5	28	New York 212-598-8000	Arthur V. Ferrara
40	CAPITAL CITIES/ABC	S-20	6,695.7	343.5	17	New York 212-456-7777	Daniel B. Burke
41	PARAMOUNT COMM.	S-28	6,640.8	122.2	35	New York 212-373-8000	Martin S. Davis
42	MUTUAL OF AMERICA LIFE	L-50	5,401.5	95.0	37	New York 212-399-1600	William J. Flynn
43	N.Y. STATE ELECTRIC & GAS	U-48	4,924.8	168.6	29	Ithaca 607-347-4131	James A. Carrigg
44	ALLEGHENY POWER SYSTEM	U-49	4,855.0	194.0	26	New York 212-752-2121	Klaus Bergman
45	R.H. MACY	R-17	4,811.6	(150.2)	65	New York 212-560-4400	M. S. Handler/M. E. Ullman
46	DUN & BRADSTREET	S-27	4,777.4	508.5	12	New York 212-593-6800	Charles W. Moritz
47	EUROPEAN AMER. BANCORP	B-99	4,766.9	11.3	53	Uniondale 516-296-5000	Harrison F. Tempest
48	WOOLWORTH	R-12	4,618.0	(166.0)	67	New York 212-553-2000	Harold E. Sells
49	LEUCADIA NATIONAL	F-32	4,590.1	94.8	38	New York 212-460-1900	Ian M. Cumming
50	ALLEGHANY	F-33	4,539.2	64.0	43	New York 212-752-1356	Fred M. Kirby
51	VIACOM	S-69	4,188.4	(49.7)	58	New York 212-258-6000	Frank J. Biondi Jr.
52	MELVILLE	R-13	4,085.2	346.7	16	Rye 914-925-4000	Stanley P. Goldstein

CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
53	ROCHESTER COMMUN. SAV.	I-24	3,962.7	(30.9)	57	Rochester 716-258-3000	Leonard S. Simon
54	DISCOUNT CORP. OF N.Y.	F-37	3,582.3	(13.6)	56	New York 212-248-8900	Rafael de la Gueronnier
55	AMERICAN SAVINGS BANK	I-29	3,453.6	(160.1)	66	White Plains 914-287-2600	W. Ronald Dietz
56	GREATER N.Y. SAVINGS BANK	I-36	2,847.7	(57.9)	60	New York 212-613-4000	Gerard C. Keegan
57	OGDEN	S-76	2,846.3	43.7	49	New York 212-868-6100	R. Richard Ablon
58	CBS	S-39	2,798.6	(85.8)	61	New York 212-975-4321	Laurence A. Tisch
59	INTERPUBLIC GROUP OF COS.	S-74	2,784.3	94.6	39	New York 212-399-8000	Philip H. Geier Jr.
60	ALEXANDER & ALEX. SVCS.	F-43	2,767.2	(12.6)	55	New York 212-840-8500	Tinsley H. Irvin
61	TRANS WORLD AIRLINES	T-14	2,683.0	34.6	50	Mount Kisco 914-242-3000	Carl C. Icahn
62	UNICORP AMERICAN CORP.	I-42	2,564.9	(49.9)	59	New York 212-972-9500	George S. Mann
63	MARSH & MCLENNAN	F-44	2,382.2	305.5	20	New York 212-345-6000	Frank J. Tasco
64	JWP	S-31	2,281.1	60.3	45	Purchase 914-935-4000	Andrew T. Dwyer
65	MBIA	F-45	2,278.4	144.7	33	Armonk 914-273-4545	David H. Elliott
66	OMNICOM GROUP	S-90	1,885.9	57.1	46	New York 212-415-3600	Bruce Crawford
67	COMPUTER ASSOCIATES	S-84	1,599.1	159.3	30	Islandia 516-342-5224	Charles B. Wang
68	OVERSEAS SHIPHOLDING GRP.	T-39	1,545.7	55.1	48	New York 212-869-1222	Morton P. Hyman
69	AVNET	S-68	1,181.5	61.6	44	Great Neck 516-466-7000	Leon Machiz
70	TURNER CORP.	S-46	707.8	11.3	52	New York 212-229-6000	Alfred T. McNeill
71	OMI	T-46	678.6	29.2	51	New York 212-986-1960	Jack Goldstein
TOTAL			1,993,637.4	13,861.1			
MEDIAN			9,171.1	122.0			

NORTH CAROLINA 10 COMPANIES

1	NATIONSBANK CORP.	B-4	110,319.0	202.0	6	Charlotte 704-386-5000	Hugh L. McColl Jr.
2	FIRST UNION CORP.	B-13	46,084.9	318.7	3	Charlotte 704-374-6565	Edward E. Crutchfield
3	WACHOVIA CORP.	B-19	33,158.3	229.5	4	Winston-Salem 919-770-5000	John G. Medlin Jr.
4	DUKE POWER	U-25	10,470.6	583.6	1	Charlotte 704-373-4011	William S. Lee
5	CAROLINA POWER & LIGHT	U-32	7,523.3	377.0	2	Raleigh 919-546-6111	Sherwood H. Smith Jr.
6	BB&T FINANCIAL CORP.	B-83	6,229.0	60.2	7	Wilson 919-399-4111	John A. Allison
7	FIRST CITIZENS BANCSHARES	B-92	5,465.9	29.2	8	Raleigh 919-755-7000	Lewis R. Holding
8	FOOD LION	R-21	1,992.2	205.2	5	Salisbury 704-633-8250	Thomas E. Smith
9	LOWE'S	R-39	1,441.2	6.5	9	North Wilkesboro 919-651-4000	Leonard G. Herring
10	CAROLINA FREIGHT	T-30	375.5	1.6	10	Cherryville 704-435-6811	Kenneth E. Mayhew Jr.
TOTAL			223,059.9	2,013.5			
MEDIAN			6,876.2	203.6			

OHIO 25 COMPANIES

1	BANC ONE CORP.	B-12	46,293.1	529.5	2	Columbus 614-248-5800	John B. McCoy
2	NATIONAL CITY CORP.	B-26	24,169.7	231.0	7	Cleveland 216-575-2000	Edward B. Brandon
3	NATIONWIDE LIFE	L-19	15,977.3	20.3	20	Columbus 614-249-7111	John E. Fisher
4	SOCIETY CORP.	B-40	15,404.5	163.0	8	Cleveland 216-689-3000	Robert W. Gillespie
5	AMERICAN ELECTRIC POWER	U-16	14,125.3	497.9	3	Columbus 614-223-1000	Richard E. Disbrow
6	HUNTINGTON BANCSHARES	B-47	12,332.6	117.0	12	Columbus 614-476-8300	Frank Wobst
7	AMERICAN FINANCIAL	S-22	12,057.3	72.3	15	Cincinnati 513-579-2121	Carl H. Lindner
8	CENTERIOR ENERGY	U-20	12,042.1	237.2	6	Independence 216-447-3100	Robert J. Farling
9	AMERITRUST CORP.	B-55	10,181.0	(86.5)	25	Cleveland 216-737-5000	Robert W. Gillespie
10	FIFTH THIRD BANCORP	B-66	8,826.1	138.1	10	Cincinnati 513-579-5300	George A. Schaefer Jr.
11	OHIO EDISON	U-31	7,812.3	264.8	5	Akron 216-384-5100	Justin T. Rogers Jr.
12	FEDERATED DEPT. STORES	R-16	7,501.1	836.4	1	Cincinnati 513-579-7000	Allen Questrom
13	STAR BANC CORP.	B-79	6,645.9	65.8	16	Cincinnati 513-632-4000	Oliver W. Waddell
14	KROGER	R-4	4,114.4	79.9	14	Cincinnati 513-762-4000	Joseph A. Pichler
15	CHARTER ONE FINANCIAL	I-26	3,665.8	33.5	17	Cleveland 216-566-5300	Charles John Koch
16	OHIO CASUALTY	F-39	3,531.3	107.9	13	Hamilton 513-867-3000	Joseph L. Marcum
17	CINCINNATI FINANCIAL	F-40	3,436.0	146.3	9	Fairfield 513-870-2000	Robert B. Morgan
18	LIMITED	R-23	3,418.9	403.3	4	Columbus 614-479-7000	Leslie H. Wexner
19	PENN CENTRAL	S-45	3,383.1	2.6	24	Cincinnati 513-579-6600	Carl H. Lindner
20	PROGRESSIVE	F-41	2,979.1	32.9	18	Mayfield Heights 216-464-8000	Peter B. Lewis
21	ROADWAY SERVICES	T-16	1,488.6	127.3	11	Akron 216-384-8184	Joseph M. Clapp

CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
22	UNITED STATES SHOE	R-45	1,152.1	31.2	19	Cincinnati 513-527-7000	Bannus B. Hudson
23	CARDINAL DISTRIBUTION	S-96	446.4	17.4	21	Dublin 614-761-8700	Robert D. Walter
24	MIDLAND ENTERPRISES	T-47	435.1	15.0	22	Cincinnati 513-721-4000	Fred C. Raskin
25	SUPER FOOD SERVICES	S-65	304.2	12.2	23	Dayton 513-439-7500	Jack Twyman
TOTAL			221,723.3	4,096.4			
MEDIAN			6,645.9	107.9			
OKLAHOMA 1 COMPANY							
1	FLEMING	S-4	2,955.8	63.0	1	Oklahoma City 405-840-7200	E. Dean Werries
TOTAL			2,955.8	63.0			
OREGON 4 COMPANIES							
1	U.S. BANCORP	B-32	18,875.1	196.4	3	Portland 503-275-6111	Roger L. Breezley
2	PACIFICORP	U-17	13,228.8	507.2	1	Portland 503-731-2000	Alfred M. Gleason
3	NIKE	S-40	1,708.4	287.0	2	Beaverton 503-671-6453	Philip H. Knight
4	FRED MEYER	R-46	972.8	45.2	4	Portland 503-232-8844	Robert G. Miller
TOTAL			34,785.2	1,035.9			
MEDIAN			7,468.6	241.7			
PENNSYLVANIA 25 COMPANIES							
1	CIGNA	F-7	66,737.0	449.0	2	Philadelphia 215-761-1000	Wilson H. Taylor
2	PNC FINANCIAL CORP.	B-15	44,891.7	389.8	3	Pittsburgh 412-762-2666	Thomas H. O'Brien
3	MELLON BANK CORP.	B-25	29,355.0	280.0	5	Pittsburgh 412-234-5000	Frank V. Cahouet
4	BELL ATLANTIC	U-3	27,881.6	(222.7)	24	Philadelphia 215-963-6000	Raymond W. Smith
5	CORESTATES FINAN. CORP.	B-30	21,623.9	228.1	6	Philadelphia 215-973-3100	Terrence A. Larsen
6	UNION PACIFIC	T-8	13,326.0	64.0	15	Bethlehem 215-861-3200	Drew Lewis
7	PHILADELPHIA ELECTRIC	U-19	12,558.4	534.7	1	Philadelphia 215-841-4000	Joseph F. Paquette Jr.
8	MERIDIAN BANCORP	B-51	11,336.9	100.6	11	Reading 215-320-2000	Samuel A. McCullough
9	INTEGRA FINANCIAL	B-64	8,846.9	70.2	13	Pittsburgh 412-644-7669	William F. Roemer
10	PENNSYL. POWER & LIGHT	U-30	7,934.6	348.4	4	Allentown 215-774-5151	John T. Kauffman
11	CONSOLIDATED RAIL	T-15	7,096.0	(207.0)	23	Philadelphia 215-977-4000	James A. Hagen
12	NATIONAL HOME LIFE	L-44	6,138.2	77.5	12	Frazer 215-648-5000	Norman L. Phelps
13	PENN MUTUAL LIFE	L-45	6,086.0	32.5	17	Philadelphia 215-956-8000	John E. Tait
14	MERITOR SAVINGS BANK	I-14	5,974.6	(60.7)	22	Philadelphia 215-636-6000	Roger S. Hillas
15	CONSOLIDATED NAT. GAS	U-46	5,011.1	168.6	7	Pittsburgh 412-227-1200	George A. Davidson Jr.
16	ALCO STANDARD	S-24	2,020.6	117.6	9	Wayne 215-296-8000	Ray B. Mundt
17	ARA GROUP	S-26	2,002.5	64.2	14	Philadelphia 215-238-3000	Joseph Neubauer
18	ADVANTA	F-49	1,717.5	25.2	18	Horsham 215-657-4000	Dennis Alter
19	RITE AID	R-35	1,667.0	107.3	10	Shiremanstown 717-761-2633	Alexander Grass
20	PENN TRAFFIC	R-43	1,221.6	(8.0)	20	Johnstown 814-536-9900	Gary D. Hirsch
21	ALCO HEALTH SERVICES	S-42	782.4	(14.5)	21	Valley Forge 215-296-4480	John F. McNamara
22	U.S. HEALTHCARE	S-70	758.2	151.1	8	Blue Bell 215-628-4800	Leonard Abramson
23	INTELLIGENT ELECTRONICS	S-63	706.5	38.2	16	Exton 215-458-5500	Richard D. Sanford
24	SERVISTAR	S-87	415.9	N.A.		Butler 412-283-4567	Lawrence T. Zehfuss
25	CHEMICAL LEAMAN	T-50	102.3	0.4	19	Exton 215-363-4200	David R. Hamilton
TOTAL			286,192.4	2,734.5			
MEDIAN			6,086.0	73.9			
PUERTO RICO 1 COMPANY							
1	BANPONCE CORP.	B-67	8,780.3	64.6	1	San Juan 809-765-9800	Alberto M. Paracchini
TOTAL			8,780.3	64.6			

CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
RHODE ISLAND 2 COMPANIES							
1	FLEET/NORSTAR FINANCIAL	B-14	45,444.8	97.7	1	Providence 401-278-5800	Terrence Murray
2	OLD STONE CORP.	I-47	2,173.5	(78.9)	2	Providence 401-738-5000	James V. Rosati
TOTAL			47,618.3	18.8			
SOUTH CAROLINA 2 COMPANIES							
1	TW HOLDINGS	R-33	3,384.8	(67.6)	2	Spartanburg 803-597-8000	Jerome J. Richardson
2	FIRST SAVINGS BANK	I-50	2,076.4	8.4	1	Greenville 803-458-2000	Luther C. Boliek
TOTAL			5,461.2	(59.1)			
TENNESSEE 7 COMPANIES							
1	PROVIDENT NATL. ASSUR.	L-34	8,219.6	21.5	4	Chattanooga 615-755-1901	Carolyn King
2	1ST TENNESSEE NATL. CORP.	B-72	7,903.7	63.8	2	Memphis 901-523-4444	Ronald A. Terry
3	FIRST AMERICAN CORP.	B-82	6,377.0	16.9	5	Nashville 615-748-2000	Dennis C. Bottorff
4	HOSPITAL CORP. OF AMERICA	S-23	6,302.2	(5.3)	7	Nashville 615-327-9551	Thomas F. Frist Jr.
5	PROVIDENT LIFE & ACCIDENT	L-46	5,826.3	32.7	3	Chattanooga 615-755-1011	Winston W. Walker
6	FEDERAL EXPRESS	T-6	5,672.5	5.9	6	Memphis 901-369-3600	Frederick W. Smith
7	SERVICE MERCHANDISE	R-36	1,572.7	76.1	1	Nashville 615-660-6000	Raymond Zimmerman
TOTAL			41,874.0	211.5			
MEDIAN			6,302.2	21.5			
TEXAS 31 COMPANIES							
1	AMERICAN GENERAL	F-15	36,105.0	480.0	2	Houston 713-522-1111	Harold S. Hook
2	TEXAS UTILITIES	U-11	18,792.8	(410.0)	30	Dallas 214-812-4600	Jerry S. Farrington
3	AMR	T-2	16,208.0	(240.0)	26	Fort Worth 817-963-1234	Robert L. Crandall
4	VARIABLE ANNUITY LIFE	L-20	14,766.5	89.4	10	Houston 713-526-5251	Stephen D. Bickel
5	J.C. PENNEY	R-6	12,520.0	80.0	13	Dallas 214-591-1000	William R. Howell
6	HOUSTON INDUSTRIES	U-21	12,028.8	417.4	3	Houston 713-629-3000	Don D. Jordan
7	ENRON	S-3	10,071.7	241.8	6	Houston 713-853-6161	Kenneth L. Lay
8	1ST CITY BANCORP. TEXAS	B-57	9,943.5	(224.8)	25	Houston 713-658-6011	C. Ivan Wilson
9	CENTRAL & SOUTH WEST	U-28	9,396.9	401.0	4	Dallas 214-754-1000	E. R. Brooks
10	GULF STATES UTILITIES	U-35	6,911.5	102.3	9	Beaumont 409-838-6631	Joseph L. Donnelly
11	BURLINGTON NORTHERN	T-12	6,324.0	(320.0)	29	Fort Worth 817-878-2000	Gerald Grinstein
12	PANHANDLE EASTERN	U-40	6,176.5	85.1	11	Houston 713-627-5400	Dennis R. Hendrix
13	ELECTRONIC DATA SYSTEMS	S-13	5,703.2	547.5	1	Dallas 214-661-6000	Lester M. Alberthal Jr.
14	TEAM BANCSHARES	B-90	5,664.9	35.0	16	Dallas 214-521-4171	Ronald G. Steinhart
15	HALLIBURTON	S-14	5,017.2	26.6	18	Dallas 214-978-2600	Thomas H. Cruikshank
16	BROWNING-FERRIS IND.	S-37	3,655.9	65.2	14	Houston 713-870-8100	William D. Ruckelshaus
17	CONTINENTAL AIR. HLDGS.	T-10	3,523.0	(305.7)	28	Houston 713-834-5000	Robert R. Ferguson III
18	ENSERCH	S-41	3,163.1	19.1	19	Dallas 214-651-8700	William C. McCord
19	AMERICAN MEDICAL HLDGS.	S-48	3,153.5	(19.0)	22	Dallas 214-360-6300	Robert W. O'Leary
20	TANDY	R-30	3,078.1	195.4	7	Fort Worth 817-390-3700	John V. Roach
21	SOUTHLAND	R-15	2,595.8	82.5	12	Dallas 214-828-7011	Clark J. Matthews II
22	SYSCO	S-11	2,160.1	153.8	8	Houston 713-584-1390	John F. Woodhouse
23	CENTEX	S-54	2,032.1	43.6	15	Dallas 214-559-6500	Laurence E. Hirsch
24	SOUTHWEST AIRLINES	T-23	1,837.3	26.9	17	Dallas 214-904-4000	Herbert D. Kelleher
25	LOMAS FINANCIAL	F-48	1,798.2	(119.1)	24	Dallas 214-879-4000	Jess T. Hay
26	EXXON PIPELINE	T-29	1,720.0	279.9	5	Houston 713-656-3636	Darrell G. Warner
27	NATIONAL INTERGROUP	S-36	1,058.4	(294.6)	27	Carrollton 214-446-4800	A. J. Butler/M. J. Estrin
28	NATIONAL GYPSUM	S-100	887.8	(95.8)	23	Dallas 214-969-3400	Peter C. Browning
29	SEAGULL ENERGY	T-48	618.6	5.1	21	Houston 713-951-4700	Barry J. Galt
30	ASSOCIATED MILK PROD.	S-43	562.4	N.A.		San Antonio 512-340-9100	E. Noble Anderson
31	COMMERCIAL METALS	S-97	460.8	12.0	20	Dallas 214-689-4300	Stanley A. Rabin
TOTAL			207,934.7	1,360.7			
MEDIAN			3,655.9	39.3			

CONTINUED

THE SERVICE 500 BY

STATE

RANK		500 RANK	ASSETS $ millions	PROFITS $ millions	Rank	HEADQUARTERS	CEO
UTAH 2 COMPANIES							
1	FIRST SECURITY CORP.	B-75	7,015.1	59.6	2	Salt Lake City 801-350-6000	Spencer F. Eccles
2	AMERICAN STORES	R-5	6,950.0	199.4	1	Salt Lake City 801-539-0112	J. L. Scott/V. L. Lund
TOTAL			13,965.1	259.0			
VERMONT 1 COMPANY							
1	FUND AMERICAN	F-42	2,964.0	1,313.0	1	Norwich 802-649-3633	John J. Byrne
TOTAL			2,964.0	1,313.0			
VIRGINIA 13 COMPANIES							
1	FED. HOME LOAN MORTGAGE	F-11	46,860.0	555.0	1	Reston 703-903-2000	Leland C. Brendsel
2	CSX	T-5	12,798.0	(272.0)	12	Richmond 804-782-1400	John W. Snow
3	CRESTAR FINANCIAL CORP.	B-49	11,828.3	33.8	6	Richmond 804-782-5000	Richard G. Tilghman
4	SIGNET BANKING CORP.	B-52	11,238.8	(25.7)	11	Richmond 804-747-2000	Robert M. Freeman
5	DOMINION RESOURCES	U-23	11,201.4	459.9	2	Richmond 804-775-5700	Thomas E. Capps
6	NORFOLK SOUTHERN	T-11	10,148.1	29.7	7	Norfolk 804-629-2600	Arnold B. McKinnon
7	DOMINION BANKSHARES	B-58	9,711.0	20.6	8	Roanoke 703-563-7000	Warner N. Dalhouse
8	CENTRAL FIDELITY BANKS	B-76	6,805.8	60.4	4	Richmond 804-782-4000	Carroll L. Saine
9	USAIR GROUP	T-9	6,453.6	(305.3)	13	Arlington 703-418-7000	Seth E. Scofield
10	FIRST VIRGINIA BANKS	B-85	6,119.3	69.6	3	Falls Church 703-241-4000	Robert H. Zalokar
11	LIFE INS. CO. OF VA.	L-48	5,457.9	51.4	5	Richmond 804-281-6000	Paul E. Rutledge III
12	CIRCUIT CITY STORES	R-49	874.1	3.2	10	Richmond 804-527-4000	Richard L. Sharp
13	WORLDCORP	T-45	139.0	10.4	9	Herndon 703-834-9200	T. Coleman Andrews
TOTAL			139,635.1	691.0			
MEDIAN			9,711.0	29.7			
WASHINGTON 12 COMPANIES							
1	SAFECO	F-27	11,907.2	259.6	2	Seattle 206-545-5000	Roger H. Eigsti
2	WASHINGTON MUTUAL SAV.	I-12	7,117.8	67.5	6	Seattle 206-461-2000	Kerry K. Killinger
3	SAFECO LIFE INSURANCE	L-41	6,431.3	43.7	8	Redmond 206-867-8000	Richard E. Zunker
4	UNITED PACIFIC LIFE	L-49	5,432.1	13.0	11	Federal Way 206-952-6770	Terry L. Kendall
5	PUGET SOUND BANCORP	B-98	4,883.8	49.1	7	Tacoma 206-593-3600	W. W. Philip
6	WASHINGTON FED. S&L ASSN.	I-38	2,785.1	69.3	5	Seattle 206-624-7930	Elliot K. Knutson
7	NORDSTROM	R-38	2,041.9	135.8	3	Seattle 206-628-2111	Bruce A. Nordstrom
8	MICROSOFT	S-64	1,644.2	462.7	1	Redmond 206-882-8080	William H. Gates III
9	ALASKA AIR GROUP	T-25	1,211.6	10.3	12	Seattle 206-431-7040	Raymond J. Vecci
10	COSTCO WHOLESALE	R-27	1,140.6	84.8	4	Kirkland 206-828-8100	James D. Sinegal
11	AIRBORNE FREIGHT	T-22	823.6	30.0	9	Seattle 206-285-4600	Robert S. Cline
12	UNIVAR	S-83	526.4	19.6	10	Seattle 206-889-3400	James W. Bernard
TOTAL			45,945.6	1,245.5			
MEDIAN			2,413.5	58.3			
WISCONSIN 5 COMPANIES							
1	NORTHWESTERN MUTUAL LIFE	L-9	35,743.8	538.5	1	Milwaukee 414-271-1444	Donald J. Schuenke
2	FIRSTAR CORP.	B-48	12,309.5	134.3	2	Milwaukee 414-765-4321	Roger L. Fitzsimonds
3	MARSHALL & ILSLEY CORP.	B-73	7,627.8	99.3	3	Milwaukee 414-765-7801	John A. Puelicher
4	FIRST FINANCIAL CORP.	I-33	3,220.0	18.5	4	Stevens Point 715-341-0400	John C. Seramur
5	ROUNDY'S	S-49	390.8	N.A.		Pewaukee 414-547-7999	John R. Dickson
TOTAL			59,291.9	790.7			
MEDIAN			7,627.8	116.8			

CONTINUED

THE SERVICE 500

INDEX

COMPANY	RANK
A	
ACE HARDWARE	S-71
ADVANTA	F-49
AETNA LIFE	L-4
AETNA LIFE & ANNUITY	L-23
AETNA LIFE & CASUALTY	F-4
AHMANSON (H.F.)	I-1
AIRBORNE FREIGHT	T-22
ALASKA AIR GROUP	T-25
ALBERTSON'S	R-14
ALCO HEALTH SERVICES	S-42
ALCO STANDARD	S-24
ALEXANDER & ALEX. SVCS.	F-43
ALEXANDER & BALDWIN	T-31
ALLEGHANY	F-35
ALLEGHENY POWER SYSTEM	U-49
ALLSTATE LIFE	L-15
AMBASE	I-15
AMERICAN ELECTRIC POWER	U-16
AMERICAN EXPRESS	F-2
AMERICAN FAMILY LIFE	L-33
AMERICAN FINANCIAL	S-22
AMERICAN GENERAL	F-15
AMERICAN INTL. GROUP	F-6
AMERICAN LIFE	L-35
AMERICAN MEDICAL HLDGS.	S-48
AMERICAN PRESIDENT	T-18
AMERICAN SAVINGS BANK	I-29
AMERICAN SAVINGS OF FLA.	I-30
AMERICAN STORES	R-5
AMERICAN TEL. & TEL.	S-1
AMERICA WEST AIRLINES	T-21
AMERITECH	U-8
AMERITRUST CORP.	B-55
AMES DEPARTMENT STORES	R-41
AMR	T-2
AMSOUTH BANCORP.	B-60
ANCHOR BANCORP	I-11
AON	F-28
ARA GROUP	S-26
ARCO TRANS. ALASKA	T-38
ARGONAUT GROUP	F-47
ARKANSAS BEST	T-27
ARKLA	U-47
ASSOCIATED MILK PROD.	S-43
AUTOMATIC DATA PROC.	S-66
AVNET	S-68
B	
BALLY MANUFACTURING	S-78
BALTIMORE GAS & ELECTRIC	U-34
BANC ONE CORP.	B-12
BANCORP HAWAII	B-50
BANKAMERICA CORP.	B-3
BANKERS TRUST N.Y. CORP.	B-8
BANK OF BOSTON CORP.	B-21
BANK OF CALIFORNIA	B-69
BANK OF NEW YORK CO.	B-16
BANK OF TOKYO TRUST	B-61
BANPONCE CORP.	B-67
BARNETT BANKS	B-20
BAYBANKS	B-59
BAY VIEW CAPITAL CORP.	I-39
BB&T FINANCIAL CORP.	B-83
BEAR STEARNS	F-13
BELL ATLANTIC	U-3
BELLSOUTH	U-2
BENEFICIAL	F-30
BERGEN BRUNSWIG	S-25
BERKLEY (W.R.)	F-50
BEVERLY ENTERPRISES	S-53
BINDLEY WESTERN	S-50
BLOCK (H&R)	S-94
BOATMEN'S BANCSHARES	B-35
BORG-WARNER	S-51
BP PIPELINES (ALASKA)	T-24
BROWNING-FERRIS INDUS.	S-37
BRUNO'S	R-47
BURLINGTON NORTHERN	T-12
C	
CALFED	I-5
CAPITAL CITIES/ABC	S-20
CAPITAL HOLDING	F-20
CARDINAL DISTRIBUTION	S-96
CARGILL	S-2
CAROLINA FREIGHT	T-30
CAROLINA POWER & LIGHT	U-32
CBI INDUSTRIES	S-75
CBS	S-39
CENTERIOR ENERGY	U-20
CENTEX	S-54
CENTR. BANCSH. OF SOUTH	B-84
CENTRAL FIDELITY BANKS	B-76
CENTRAL & SOUTH WEST	U-28
CHARTER MEDICAL	S-95
CHARTER ONE FINANCIAL	I-26
CHASE MANHATTAN CORP.	B-6
CHEMICAL BANKING CORP.	B-2
CHEMICAL LEAMAN	T-50
CHICAGO & NORTH WESTERN	T-26
CHUBB	F-24
CIGNA	F-7
CINCINNATI FINANCIAL	F-40
CIRCLE K	R-34
CIRCUIT CITY STORES	R-49
CITADEL HOLDING CORP.	I-17
CITICORP	B-1
CMS ENERGY	U-39
COAST SAVINGS FINANCIAL	I-10
COLLECTIVE BANCORP	I-45
COLONIAL PIPELINE	T-37
COLUMBIA GAS SYSTEM	U-38
COMDISCO	S-55
COMERICA	B-43
COMMERCE BANCSHARES	B-77
COMMERCIAL FEDERAL CORP.	I-18
COMMERCIAL METALS	S-97
COMMONWEALTH EDISON	U-12
COMPUTER ASSOCIATES	S-84
COMPUTER SCIENCES	S-67
CONNECTICUT GENERAL LIFE	L-7
CONNECTICUT MUTUAL LIFE	L-25
CONSOL. EDISON OF N.Y.	U-24
CONSOLIDATED FREIGHTWAYS	T-13
CONSOLIDATED NATURAL GAS	U-46
CONSOLIDATED RAIL	T-15
CONTINENTAL	F-23
CONTINENTAL AIRLNS. HLDGS.	T-10
CONTINENTAL ASSURANCE	L-26
CONTINENTAL BANK CORP.	B-27
CONTROL DATA	S-77
CORESTATES FINANCIAL CORP.	B-30
COSTCO WHOLESALE	R-27
CRAGIN FINANCIAL CORP.	I-41
CRESTAR FINANCIAL CORP.	B-49
CSF HOLDINGS	I-21
CSX	T-5
D	
DAYTON HUDSON	R-7
DELTA AIR LINES	T-4
DEPOSIT GUARANTY CORP.	B-96
DETROIT EDISON	U-26
DFSOUTHEASTERN	I-43
DIAL	S-32
DILLARD DEPT. STORES	R-31
DIME SAVINGS BANK OF N.Y.	I-7
DISCOUNT CORP. OF N.Y.	F-37
DISNEY (WALT)	S-17
DOLE FOOD	S-35
DOMINION BANKSHARES	B-58
DOMINION RESOURCES	U-23
DOWNEY S&L ASSN.	I-25
DUKE POWER	U-25
DUN & BRADSTREET	S-27
E	
ECKERD (JACK)	R-32
ECOLAB	S-88
ELECTRONIC DATA SYSTEMS	S-13
ENRON	S-3
ENSERCH	S-41
ENTERGY	U-15
EQUITABLE LIFE ASSURANCE	L-5
EQUITABLE VARIABLE LIFE	L-28
EUROPEAN AMERICAN BANCORP	B-99
EXXON PIPELINE	T-29
F	
FARMERS UNION (CENEX)	S-73
FARM & HOME FINAN. CORP.	I-28
FEDERAL EXPRESS	T-6
FED. HOME LOAN MORTGAGE	F-11
FED. NATL. MORTGAGE ASSN.	F-1
FEDERATED DEPT. STORES	R-16
FHP INTERNATIONAL	S-86
FIFTH THIRD BANCORP	B-66
FIRST ALA. BANCSHARES	B-78
FIRST AMER. BANKSHARES	B-70
FIRST AMERICAN CORP.	B-82
FIRSTAR CORP.	B-48
FIRST BANK SYSTEM	B-33
FIRST CHICAGO CORP.	B-10
FIRST CITIZENS BANCSHARES	B-92
1ST CITY BANCORP. TEXAS	B-57
FIRST COMMERCE CORP.	B-97
FIRST EMPIRE STATE CORP.	B-62
FIRSTFED FINANCIAL	I-32
FIRSTFED MICHIGAN CORP.	I-9
1ST FIDELITY BANCORP.	B-23
FIRST FINANCIAL CORP.	I-33
FIRST FINANCIAL MANAGEMENT	S-80
FIRST FLORIDA BANKS	B-89
FIRST HAWAIIAN	B-81
FIRST INTERSTATE BANCORP	B-11
FIRST MARYLAND BANCORP	B-63
FIRST OF AMER. BANK CORP.	B-39
FIRST SAVINGS BANK	I-50
FIRST SECURITY CORP.	B-75
1ST TENNESSEE NATL. CORP.	B-72
FIRST UNION CORP.	B-13
FIRST VIRGINIA BANKS	B-85
FLEET/NORSTAR FINANCIAL	B-14
FLEMING	S-4
FLORIDA PROGRESS	U-45
FLUOR	S-15
FOOD LION	R-21
FORTUNE BANCORP	I-37
FOSTER WHEELER	S-58
FPL GROUP	U-22
FREMONT GENERAL	F-46
FUND AMERICAN	F-42
G	
GEICO	F-35
GENERAL AMERICAN LIFE	L-38
GENERAL CINEMA	S-30
GENERAL PUBLIC UTILITIES	U-33
GENERAL RE	F-26
GENUINE PARTS	S-33
GIANT FOOD	R-37
GLENFED	I-4
GND HOLDINGS	R-40
GOLDEN WEST FINAN. CORP.	I-3
GRAINGER (W.W.)	S-57
GRAND TRUNK	T-42
GREAT ATL. & PACIFIC TEA	R-9
GREATER N.Y. SAVINGS BANK	I-36
GREAT LAKES BANCORP	I-35
GREAT WESTERN FINAN. CORP.	I-2
GTE	U-1
GUARDIAN LIFE OF AMERICA	L-36
GULF STATES UTILITIES	U-35
H	
HAL	T-40
HALLIBURTON	S-14
HANOVER INSURANCE	F-38
HARDWARE WHOLESALERS	S-98
HARRIS BANKCORP	B-42
HARTFORD LIFE	L-18
HARVEST STATES COOPS.	S-38
HERTZ	S-47
HIBERNIA CORP.	B-86
HOME DEPOT	R-28
HOMEFED CORP.	I-6
HOSPITAL CORP. OF AMERICA	S-23
HOUSEHOLD INTERNATIONAL	F-17
HOUSTON INDUSTRIES	U-21
HOWARD SAVINGS BANK	I-22
HUMANA	S-18
HUNTINGTON BANCSHARES	B-47
HUNT (J.B.) TRANSPORT	T-32
I	
IDS LIFE	L-14
ILLINOIS CENTRAL	T-36
ILLINOIS POWER	U-43
INB FINANCIAL CORP.	B-80
INTEGRA FINANCIAL	B-64
INTELLIGENT ELECTRONICS	S-63
INTL. SHIPHOLDING	T-41
INTERPUBLIC GROUP	S-74
ITEL	S-61
ITT	F-9
J	
JACKSON NATIONAL LIFE	L-22
JOHN HANCOCK MUTUAL LIFE	L-8
JWP	S-31
K	
KANSAS CITY SO. INDUS.	T-33

B COMMERCIAL BANKING COMPANIES page 178 · F DIVERSIFIED FINANCIAL COMPANIES page 182 · I SAVINGS INSTITUTIONS page 184 · L LIFE INSURANCE COMPANIES page 186 · R RETAILING COMPANIES page 188 · S DIVERSIFIED SERVICE COMPANIES page 174 · T TRANSPORTATION COMPANIES page 190 · U UTILITIES page 192

THE SERVICE 500

INDEX

COMPANY	RANK
KAUFMAN & BROAD HOME	S-91
KELLY SERVICES	S-82
KEMPER	F-21
KEMPER INVESTORS LIFE	L-37
KEYCORP	B-28
KEYPORT LIFE	L-32
KIEWIT (PETER) SONS'	S-34
KMART	R-3
KROGER	R-4
L	
LANDSTAR HOLDING	T-34
LASALLE NATIONAL CORP.	B-68
LEUCADIA NATIONAL	F-32
LIFE INS. CO. OF VA.	L-48
LIMITED	R-23
LINCOLN NATIONAL LIFE	L-13
LOEWS	F-14
LOMAS FINANCIAL	F-48
LONG ISLAND LIGHTING	U-27
LONGS DRUG STORES	R-50
LOWE'S	R-39
M	
MACY (R.H.)	R-17
MANUF. NATIONAL CORP.	B-44
MARINE MIDLAND BANKS	B-38
MARRIOTT	S-8
MARSHALL & ILSLEY CORP.	B-73
MARSH & MCLENNAN	F-44
MASS. MUTUAL LIFE	L-12
MAY DEPARTMENT STORES	R-10
MBIA	F-45
MBNA	B-87
MCDONALD'S	R-20
MCI COMMUNICATIONS	S-9
MCKESSON	S-10
MEDCO CONTAIN. SERVICES	S-85
MELLON BANK CORP.	B-25
MELVILLE	R-13
MERCANTILE BANCORP.	B-71
MERCANTILE BANKSH. CORP.	B-95
MERCANTILE STORES	R-48
MERCHANTS NATIONAL CORP.	B-88
MERIDIAN BANCORP	B-51
MERITOR SAVINGS BANK	I-14
MERRILL LYNCH	F-5
METROPOLITAN FINANCIAL	I-19
METROPOLITAN LIFE	L-2
MEYER (FRED)	R-46
MICHIGAN NATIONAL CORP.	B-54
MICROSOFT	S-64
MIDLAND ENTERPRISES	T-47
MIDLANTIC CORP.	B-34
MINNESOTA MUTUAL LIFE	L-43
MNC FINANCIAL	B-37
MNX	T-44
MORGAN (J.P.) & CO.	B-5
MORGAN STANLEY GROUP	F-8
MORRISON KNUDSEN	S-60
MUTUAL OF AMERICA LIFE	L-50
MUTUAL OF NEW YORK	L-16
N	
NASH FINCH	S-52
NATIONAL CITY CORP.	B-26
NATIONAL GYPSUM	S-100
NATIONAL HOME LIFE	L-44
NATIONAL INTERGROUP	S-36
NATL. MED. ENTERPRISES	S-29
NATL. WESTMIN. BANCORP	B-31
NATIONSBANK CORP.	B-4
NATIONWIDE LIFE	L-19
NBD BANCORP	B-24
NEW ENGLAND MUTUAL LIFE	L-17
NEW YORK LIFE	L-6
NEW YORK LIFE & ANNUITY	L-24
N.Y. STATE ELECTRIC & GAS	U-48
NIAGARA MOHAWK POWER	U-29
NIKE	S-40
NORDSTROM	R-38
NORFOLK SOUTHERN	T-11
NORTHEAST FEDERAL CORP.	I-20
NORTHEAST UTILITIES	U-36
NORTHERN STATES POWER	U-50
NORTHERN TRUST CORP.	B-46
NORTHWESTERN MUTUAL LIFE	L-9
NORWEST CORP.	B-17
NWA	T-7
NYNEX	U-5
O	
OGDEN	S-76
OGLETHORPE POWER	U-44
OHIO CASUALTY	F-39
OHIO EDISON	U-31
OLD KENT FINANCIAL CORP.	B-65
OLD REPUBLIC INTL.	F-36
OLD STONE CORP.	I-47
OMI	T-46
OMNICOM GROUP	S-90
OVERSEAS SHIPHOLDING GRP.	T-39
P	
PACIFICARE HEALTH SYS.	S-89
PACIFIC ENTERPRISES	S-16
PACIFIC GAS & ELECTRIC	U-7
PACIFIC MUTUAL LIFE	L-27
PACIFICORP	U-17
PACIFIC TELESIS GROUP	U-9
PAINE WEBBER GROUP	F-18
PANHANDLE EASTERN	U-40
PARAMOUNT COMM.	S-28
PENN CENTRAL	S-45
PENNEY (J.C.)	R-6
PENN MUTUAL LIFE	L-45
PENNSYL. POWER & LIGHT	U-30
PENN TRAFFIC	R-43
PEOPLE'S BANK	I-13
PEOPLES HERITAGE FINAN.	I-46
PHH	S-59
PHILADELPHIA ELECTRIC	U-19
PHM	S-93
PHOENIX MUTUAL LIFE	L-39
PINNACLE WEST	U-37
PIONEER HI-BRED INTL.	S-99
PITTSTON	S-62
PNC FINANCIAL CORP.	B-15
POTOMAC ELECTRIC POWER	U-41
PRESTON	T-35
PRICE	R-18
PRIMERICA	F-19
PRINCIPAL MUTUAL LIFE	L-11
PROGRESSIVE	F-41
PROVIDENT LIFE & ACCIDENT	L-46
PROVIDENT NATL. ASSUR.	L-34
PRUDENTIAL OF AMERICA	L-1
PUBLIC SERVICE ENT. GROUP	U-14
PUBLIX SUPER MARKETS	R-22
PUGET SOUND BANCORP	B-98
R	
REEBOK INTERNATIONAL	S-44
RELIANCE GROUP HOLDINGS	F-29
REPUBLIC NEW YORK CORP.	B-22
RIGGS NATIONAL CORP.	B-91
RITE AID	R-35
ROADWAY SERVICES	T-16
ROCHESTER COMMUNITY SAV.	I-24
ROOSEVELT FINANCIAL GROUP	I-49
ROUNDY'S	S-49
RYDER SYSTEM	S-21
RYKOFF-SEXTON	S-81
RYLAND GROUP	S-92
S	
SAFECO	F-27
SAFECO LIFE INSURANCE	L-41
SAFEWAY	R-8
SALOMON	F-3
SANTA FE PACIFIC	T-19
SANWA BANK CALIFORNIA	B-74
SCECORP	U-13
SCHWAB (CHARLES)	F-31
SEAGULL ENERGY	T-48
SEARS ROEBUCK	R-1
SECURITY PACIFIC CORP.	B-7
SERVICEMASTER	S-56
SERVICE MERCHANDISE	R-36
SERVISTAR	S-87
SFFED CORP.	I-31
SHAWMUT NATIONAL CORP.	B-29
SIGNET BANKING CORP.	B-52
SOCIETY CORP.	B-40
SOCIETY FOR SAVINGS	I-34
SOUTHERN	U-10
SOUTHERN PACIFIC TRANS.	T-17
SOUTHLAND	R-15
SOUTHTRUST CORP.	B-56
SOUTHWEST AIRLINES	T-23
SOUTHWESTERN BELL	U-6
SPRINT	S-7
STANDARD FEDERAL BANK	I-8
STAR BANC CORP.	B-79
STATE FARM LIFE	L-21
STATE MUTUAL OF AMERICA	L-40
STATE ST. BOSTON CORP.	B-41
STOP & SHOP	R-29
ST. PAUL	F-25
ST. PAUL BANCORP	I-27
STUDENT LOAN MAR. ASSN.	F-12
SUMITOMO BANK OF CALIF.	B-94
SUN LIFE CANADA (U.S.)	L-42
SUN LIFE OF AMERICA	L-47
SUNTRUST BANKS	B-18
SUPER FOOD SERVICES	S-65
SUPERMARKETS GENERAL	R-25
SUPER VALU STORES	S-6
SYSCO	S-11
T	
TALMAN HOME FED.	I-16
TANDY	R-30
TCF FINANCIAL CORP.	I-23
TEACHERS INS. & ANNUITY	L-3
TEAM BANCSHARES	B-90
TELE-COMMUNICATIONS	U-18
TEXAS UTILITIES	U-11
TIME WARNER	S-5
TJX	R-44
TOYS "R" US	R-24
TRANSAMERICA	F-16
TRANSAM. LIFE & ANNUITY	L-29
TRANSAM. OCCIDENTAL LIFE	L-30
TRANS WORLD AIRLINES	T-14
TRAVELERS	L-10
TRAVELERS CORP.	F-10
TURNER BROADCASTING	S-79
TURNER CORP.	S-46
20TH CENTURY FOX FILM	S-72
TW HOLDINGS	R-33
U	
UAL	T-3
UJB FINANCIAL	B-45
UNICORP AMERICAN CORP.	I-42
UNIGROUP	T-28
UNION BANK	B-36
UNION ELECTRIC	U-42
UNIONFED FINANCIAL	I-48
UNION PACIFIC	T-8
UNITED MISSOURI BANCSH.	B-100
UNITED PACIFIC LIFE	L-49
UNITED PARCEL SERVICE	T-1
UNITED STATES SHOE	R-45
UNITRIN	F-34
UNIVAR	S-83
UNUM LIFE	L-31
USAIR GROUP	T-9
U.S. BANCORP	B-32
USF&G	F-22
U.S. HEALTHCARE	S-70
US WEST	U-4
V	
VALLEY NATIONAL CORP.	B-53
VARIABLE ANNUITY LIFE	L-20
VIACOM	S-69
VONS	R-26
W	
WABAN	R-42
WACHOVIA CORP.	B-19
WALGREEN	R-19
WAL-MART STORES	R-2
WASHINGTON FEDERAL S&L ASSN.	I-38
WASHINGTON MUTUAL SAV.	I-12
WASTE MANAGEMENT	S-12
WELLS FARGO & CO.	B-9
WERNER ENTERPRISES	T-43
WESTAIR HOLDINGS	T-49
WESTCORP	I-40
WESTERN CAPITAL INVEST.	I-44
WEST ONE BANC	B-93
WETTERAU	S-19
WINN-DIXIE STORES	R-11
WOOLWORTH	R-12
WORLDCORP	T-45
Y	
YELLOW FREIGHT SYSTEM	T-20

B—COMMERCIAL BANKING COMPANIES page 178
F—DIVERSIFIED FINANCIAL COMPANIES page 182
I—SAVINGS INSTITUTIONS page 184
L—LIFE INSURANCE COMPANIES page 186
R—RETAILING COMPANIES page 188
S—DIVERSIFIED SERVICE COMPANIES page 174
T—TRANSPORTATION COMPANIES page 190
U—UTILITIES page 192

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JUNE 15, 1992 $3.95

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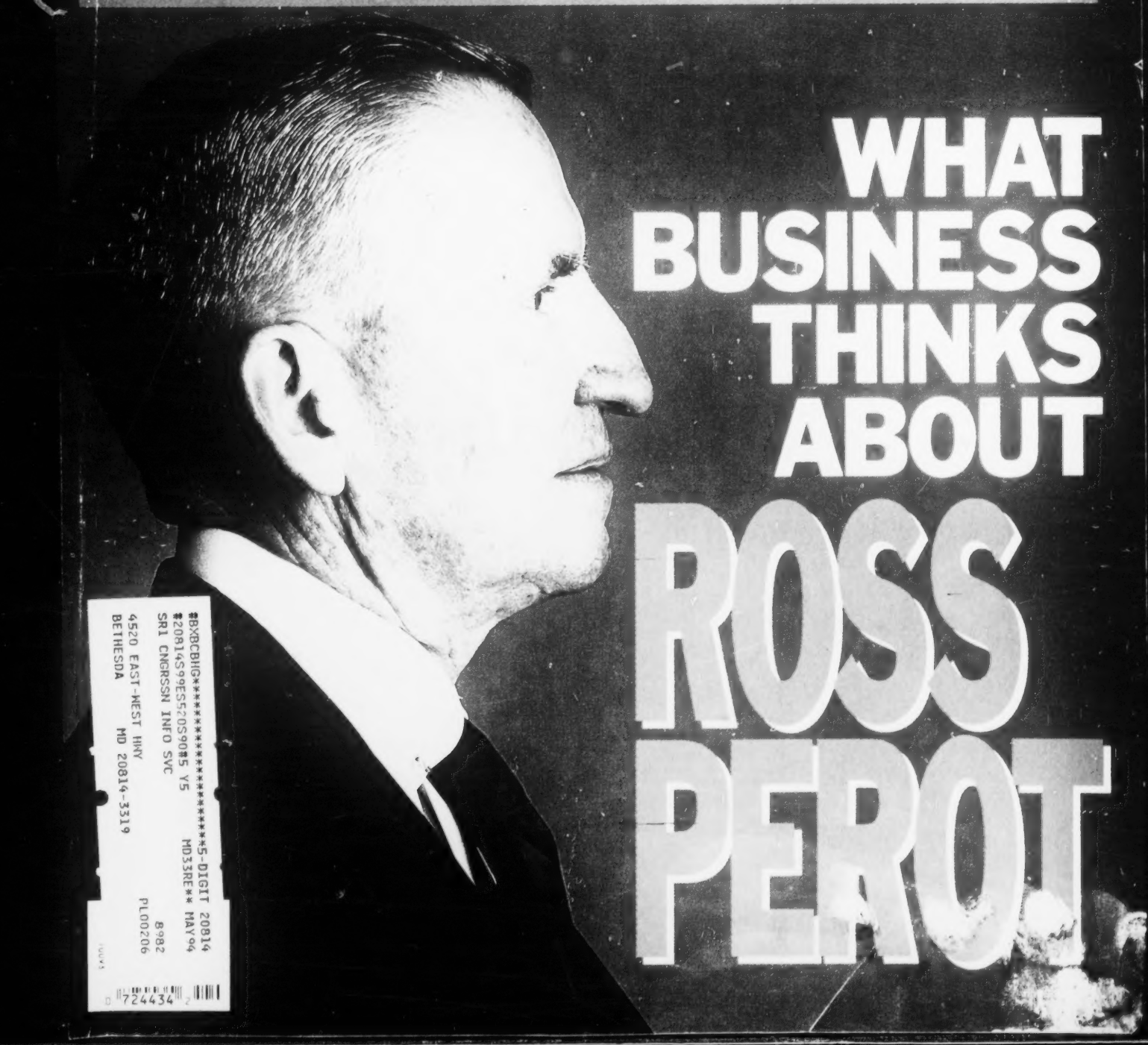

WHAT BUSINESS THINKS ABOUT ROSS PEROT

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0 724434 2

JUNE 15, 1992

VOL. 125, NO. 12

FORTUNE

"He made the Marine Corps look flexible. People would shiver in their boots. But he accomplished a tremendous amount in a very efficient way." 68

ABOVE: H. Ross Perot, chairman of Perot Systems, rehangs a painting presented to him by Vietnam vets for his efforts to secure the release of POWs. Photograph by George Lange.

COVER: Lange also took this photo of the man who would be President.

POLITICS & POLICY/COVER STORIES

WHAT BUSINESS THINKS OF PEROT 62

As President? Not much, was the short answer to FORTUNE's poll of top CEOs. Although they'd like to see a businessman in the Oval Office, only one in ten would vote for him. But nearly half think he could get elected. *by Thomas A. Stewart*

AND NOW, HERE'S THE MAN HIMSELF 68

The way Ross Perot does business is the best guide to what he'd be like as President. Ross, his employees, customers, and other intimates all have tales to tell. *by Alan Farnham*

WHERE ARE ROSS'S BILLIONS? 74

THE BOARDROOM

DIRECTORS, WAKE UP! 85

Big investors in stocks of chronically awful companies are finally mad as hell and not going to take it anymore. And they've decided whose neck is on the line. *by Myron Magnet*

COMPENSATION

WHAT CEOs REALLY MAKE 94

FORTUNE looks at the compensation of 200 top executives. It was a sneaky year: With profits down, salaries and bonuses held steady—but oh, boy, those option grants. *by Shawn Tully*

TECHNOLOGY

TECHNOLOGY TO WATCH 101

A new bar-code technology allows for lots more data and could turn up on frequent-flier cards, GI dog tags, and assembly lines. *by Mark Alpert*

MANAGING

AMERICA'S MOST SUCCESSFUL BUSINESSWOMAN 102

Linda Wachner, the only female CEO of a FORTUNE 500 industrial company, has injected Warnaco, a once sleepy apparel maker, with energy, focus, financial discipline, and fashion flair. She cut the debt, took the company public, and boosted the stock price 75%. Any wonder her holding is worth $72 million? *by Susan Caminiti*

INNOVATION

PRODUCTS TO WATCH 113

A laser detector for eluding today's high-technology speed traps, Travelers Cheques *for Two*, a pencil whose barrel is made from recycled newspaper, and more. *by Alison Sprout*

"We've attracted white-collar professionals who find their 'Iron John' is to give something back to the streets." 12

"Nobody spoke to me at the next two board meetings. Socially, I'd pulled a tremendous gaffe." 85

"The words 'When you get around to it' are not part of Linda's vocabulary." 102

"We only want 100% market share." 121

"Customers are first, employees second, shareholders third, and the community fourth." 122

"Extremely active ex-CEOs, even the world's best, are disruptive if they practice in-and-out management." 155

JAPAN

HOW JAPAN GOT BURNED IN THE U.S.A. 114

Japanese manufacturers have been dismayed by how much money they are losing in America. Many are cutting back on investment, and some are pulling out. *by Emily Thornton*

CORPORATE PERFORMANCE

DRIVING FOR THE MARKET'S HEART 120

No. 2 in Japan, Nissan Motor has seen its American sales slide despite some highly rated cars. Now it hopes to pick up speed by strengthening its core line and changing the way it works with its dealers. *by Alex Taylor III*

A HIGH-STAKES BET THAT PAID OFF 121

Morton International's investment in the air bag has transformed it from a clunker into a hot engine of growth. *by Jessica Skelly von Brachel*

WHO CARES ABOUT SHAREHOLDERS? 122

H.B. Fuller's CEO covets customer satisfaction over quarterly profits, gives heavily to charity, and is praised by environmentalists. Interesting what a do-gooder can accomplish. *by Patricia Sellers*

COMPANIES TO WATCH 123

Eskimo Pie's expertise is widening its share of the supermarket freezer. *by Richard S. Teitelbaum*

OIL

THE BLACK GOLD RUSH IN RUSSIA 126

The former Soviet Union has as much undiscovered oil as the Middle East. Chevron's $20 billion project shows how Western companies are scrambling to help develop it. *by Peter Nulty*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12

How to beat job market odds, Japan buys more U.S. auto parts, exees sign up as Guardian Angels, how drug company CEOs stay healthy, and more.

FORTUNE FORECAST 37

The profit drought is over. *by Vivian Brownstein*

Economic Intelligence: How colleges discourage saving, a contrarian view of inflation, and the luxury-car gap.

PERSONAL INVESTING 45

Choosing among the investments that are supposed to finance your retirement can be an act of faith rather than a reasoned decision. How good a deal is *your* 401(k) plan? *by Terence P. Paré*

Also: A bright outlook for business service stocks, and Portfolio Talk with Charles Royce, manager of the Pennsylvania Mutual fund.

LETTERS TO FORTUNE 56

FORTUNE PEOPLE 155

"Dull old Phil" to be new ConAgra CEO, and a Washington job for someone you hate.

BOOKS & IDEAS 156

Journalist Robert Bartley and MIT's Lester Thurow go head to head in two new books on American economic policy. *by Robert Z. Lawrence*

KEEPING UP 159

How to attain a negative GNP, the judges hang tough, and other matters. *by Daniel Seligman*

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EDITOR'S DESK

A HIGH-TECH TRANSFORMATION

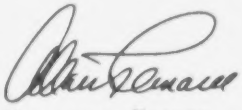
Manager Richard Sheridan and his staff of image makers at our editorial offices in Manhattan

HOW TECHNOLOGY is changing the world of business is one of our favorite topics, but until now we haven't told you what it has done for this magazine. As recently as 15 years ago, our writers handed in their manuscripts to a pool of typists. As editing progressed, the copy was typed and retyped (with up to ten carbons), sent out to a hot-lead typesetter, and returned overnight for corrections. The process was repeated until the copy was ready to be flown to our printer. Photos and charts followed an even lengthier path, going to engravers who took days to do their job.

The expertly skilled folks above represent our latest step in a high-tech transformation that has changed all that, bringing FORTUNE to you faster, closer to the news, and with more striking graphics than ever. Nowadays writers write, editors edit, and designers design on computers. Richard Sheridan's new imaging department, which began producing the magazine with the October 21 issue, scans photos electronically and merges them into a layout with written text. Film separations, which once took engravers five days to supply, now take the imaging department less than two hours. When everything is perfect, operators zap the pages in digital form to a transmission site, where they are sent by satellite to our printers.

This work takes place not in some remote location but in a space the size of a large living room right down the hall from where we editors sit. Proximity makes for teamwork. Designers can see pages being created on the computer screen and adjust them on the spot. "This saves time and improves quality," says Sheridan, "because we get it right the first time."

With Ross Perot outdrawing both George Bush and Bill Clinton in some polls, we wondered if his fellow business executives shared in that support. The answer, in Thomas Stewart's story (page 62), will probably surprise you—as will Alan Farnham's keen insights into what Perot's performance as a businessman tells you about what he'd be like as President (page 68).



EXECUTIVE EDITOR

FORTUNE (ISSN 0015-8259), Published biweekly, with three issues in October, by Time Inc. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Joseph A. Ripp, Treasurer; Henry M. Johnston, Secretary. Subscriptions: U.S., possessions, one year (27 issues) $52.95; Canada, one year (27 issues) $93.73. Second-class postage paid at New York, NY, and at additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer inquiries: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 800-621-8000. © 1992 Time Inc. All rights reserved.

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CRAIG MOLENHOUSE

HOW TO BEAT THE JOB MARKET ODDS

Faced with a stagnant job scene, unemployed managers, career changers, and freshly minted college graduates are finding new ways to hunt for work. Big corporations still look good to many, who flood human resources departments with résumés. IBM gets about one million a year. (See chart for other examples.)

But few experts expect any mass hiring by big outfits even though the economy seems to be recovering, and small companies are not picking up the slack as they used to—indeed, in the first three months of 1992 they let go more people than they hired. Clearly, job hunters need an edge. Here are techniques that some—like the newly graduated MBAs shown above—are using to beat the odds.

JUST-IN-TIME HIRING FOR RECENT MBAs

■ The University of Southern California's school of business has a just-in-time supply system to help its graduates find jobs. Like other B-schools, USC's gets calls for specific openings from small companies as well as the likes of **Avery Dennison**, **Mattel**, **Unilever**, and **UAL**'s United Airlines. Charlene Andres, assistant director of MBA career services, responds within three days with an appropriate candidate. This beats using a bulletin board. To keep customers happy, she even offers part-time workers.

Graduates who got jobs through this system include Hye Pin Im, 25, a business analyst (above, left), and Anne Morrison, 27, a sales strategist. Both women work 20 hours a week at a **Toshiba** subsidiary in Irvine, California. While the company gets to check them out, the women have the opportunity to look for full-time employment, at Toshiba or elsewhere. Says Im, who has broadened her sights a bit since starting work in January: "I'm now a little more open to opportunities that I would not have looked at before. But I've come this far and put in $21,000 for my MBA, and this job is a safe way to explore my options." **– Rick Tetzeli**

NORUNE CHART: SOURCE: HANDEN CONSULTING

GIVE YOUR RÉSUMÉ TO A COMPUTER

■ You don't have to be fresh out of college to hook up with this lead to finding a job. Provided you have a degree, **Skillsearch** of Nashville will offer a computerized version of your résumé to corporate clients like **Abbott Laboratories**, **Avon Products**, and **Southwestern Bell**. A score of colleges, including Duke, Kansas, and North Carolina, offer the service to their alums for $49. But any college grad can be part of the system for the same price.

Employers don't get the detail and precision offered by search firms, but they can save a lot of money. Skillsearch charges $375 per 12 résumés, culled from its computer database, that match some criterion set by the purchaser. The price was important to card retailer and manufacturer **Smokey's Sports Cards** (1991 sales: $21 million) of Las Vegas. CEO David Scheinman used Skillsearch to find managers willing to relocate to Nevada. Says he: "It would have cost me ten times more to use employment agencies and classified ads." The result? Three new hires, all graduates registered with Skillsearch who quit their jobs to take a step up. Kathleen Korzan, 32, of North Haven, Connecticut, is director of marketing; Gary Hernandez, 28, of Bloomfield, New Jersey, manager of retail operations; and Lee Morrison, 29, of Oklahoma City, warehousing director.

University Pro-Net in Palo Alto, California, runs a similar job bank. Clients include **Apple Computer**, **Citicorp**, **Microsoft**, and **Polaroid**. Standard fee: $10,000 for ten searches. Pro-Net handles only alumni of Stanford, Michigan, Berkeley, UCLA, MIT, and Carnegie Mellon, who pay $25 for lifetime membership. **– R.T.**

Morrison, Korzan, Hernandez: new jobs in Las Vegas

FINDING WORK VIA TRADING CARDS

■ Here's a new way to stand out in a crowded field. First-year marketing students at Washington University's John M. Olin School of Business in St. Louis are trying to hit home runs with prospective employers by sending them trading cards. These baseball derivatives feature the students in sporting gear on the front side and give their career highlights on the back. The photo shows Callaway Ludington, 27, who

Scum from Venice's lagoon: a tourist trap?

it's made from algae. They like to think that they're going home with a bit of our lagoon." **– Allison McCormick**

IPO BOOM, R.I.P.

■ In surfing there is a moment when a good wave is no longer catchable. Take off too late, and you find yourself drinking salt water.

That's the prospect facing hundreds of private companies hoping to ride the Big Wave of IPOs, or initial public offerings, that has been rolling through Wall Street for the past year. But the curl is fast collapsing. IPOs that debuted in 1992's first quarter, when a record $11 billion was raised by 169 companies going public, had fallen in price by about 4% as of May 19 according to Securities Data, a firm that tracks new issues. By contrast, IPOs done in the third and fourth quarters of last year trade at an average 19% above their issue prices. One reason: The flood of new stocks oversupplied money managers and other investors.

Falling prices are sending many private companies paddling back out to wait for the next wave or to find other sources of new capital. **Gulfstream Aerospace**, which builds corporate jets, and **Payless Cashways**, a building materials retailer that went private in 1988 in a leveraged buyout, both recently withdrew planned public offerings. Wipe out. Gulfstream is likely to try again when the IPO market strengthens. Payless won't comment on its next move.

Where does all this leave the about 200 private companies planning to sell $10 billion in stock by the end of June? Says Alan Radlo, who manages Fidelity's $1.1 billion OTC Fund: "The vast majority of the deals now scheduled simply won't ever get done." **– Ford S. Worthy**

HOW NEW STOCK ISSUES HAVE DONE

WINNERS	Offer price* (date)	High	Current price**	Percent change
Biospecifics Technologies Provides biological research services	$3.00 11/14/91	$16.50	$18.25	+508%
Royal Appliance Manufacturing Makes household vacuum cleaners	$7.75 8/6/91	$62.00	$40.00	+416%
Valley Systems Sells industrial cleaning services	$5.00 6/11/91	$27.00	$21.25	+325%
Grand Casinos Runs casinos on Indian reservations	$5.00 10/9/91	$24.25	$17.75	+255%
Lancit Media Productions Produces children's TV shows	$1.50 6/19/91	$6.00	$5.00	+233%
LOSERS				
Salton/Maxim Housewares Sells electrical appliances wholesale	$12.00 10/9/91	$12.75	$3.50	-71%
Repossession Auction Sells autos and trucks	$6.00 12/12/91	$7.75	$1.88	-69%
Koo Koo Roo Owns and runs restaurants	$5.00 10/15/91	$3.63	$1.63	-67%
Nutrition Management Services Operates weight-loss clinics	$5.00 1/29/92	$9.88	$1.63	-67%
Tocor II Develops pharmaceutical products	$40.00 1/21/92	$42.50	$13.25	-67%

*Adjusted for splits. **As of 5/19/92.

FORTUNE TABLE - SOURCE: SECURITIES DATA CO.

JAPAN BUYING MORE U.S. AUTO PARTS

■ During President Bush's January visit, the Japanese promised him that their automakers would double the purchases of foreign parts to $19 billion by 1995. Now it looks as if they meant it. A few of the some 250 U.S. manufacturers of hundreds of components like the shock absorbers **Tenneco** makes (see photo) have already booked new orders. **Simpson Industries** of Birmingham, Michigan, had a deal to ship **Toyota** 230,000 of a $20 device that dampens engine vibrations. Chairman Robert W. Navarre was delighted to receive a revised order for 450,000. Navarre is optimistic that U.S. companies can keep increasing their market share. For one thing, he says, an industry shakeout in the 1980s has strengthened the survivors to the point that they can compete globally in price and quality.

The traffic in other auto news has been heavy:

■ The Commerce Department determined that **Mazda** and **Toyota** have been dumping minivans on the U.S. market by selling them at breakeven prices. The companies deny it. If the International Trade Commission, a U.S. agency, decides this has hurt Detroit, the Japanese will have to pay duties of up to 12.7% on vans sold since December 20 and either continue to do so on future sales or raise prices by that amount.

■ The House subcommittee on

Tenneco makes shocks in Georgia.

trade began considering a bill that would require the Administration to negotiate a freeze on the sale of Japanese cars in the U.S.—imports and those made in transplants—at current levels unless Detroit sells more cars in Japan. Congress may pass the bill, but Bush is likely to veto it. **– Lee Smith**

NOW HEAR THIS

■ **SEEMA BOESKY,** 50-something, estranged wife of Ivan Boesky, on the moral to be drawn from the story of the Wall Street felon, whom she wed 30 years ago: **"Don't marry Ivan Boesky."**

■ **GREGG BOURLAND,** 35, chairman of the Cheyenne River Sioux tribe in South Dakota, on Hornell Brewing's naming its new malt liquor Crazy Horse: **"Imagine the outcry from the black community if a brewer were to market a liquor entitled Martin Luther King Beer, or from the Christian community for a Jesus Christ White Wine."**

By Terence P. Paré

HOW GOOD A DEAL IS YOUR 401(k)? MAYBE NOT AS GOOD AS YOU THINK

■ At first blush the 401(k) retirement plans offered by most large employers seem nearly impossible to improve on. As a participant, you get to contribute a chunk of your income before tax and then watch it grow in a tax-deferred account. Often the sponsoring employer will sweeten the pot by partly matching your contributions with a dash of its own. Now that's a great deal.

Or is it? With the Social Security system likely to grow ever more stingy, employees will be leaning even harder on their 401(k) proceeds to gild their golden years. Yet despite their obvious advantages, these plans have lots of shortcomings that keep investors from making the most of their money.

Many savings plans are downright confusing, and experts on benefits say the investment options are too limited. Choosing among the investments that are supposed to finance your retirement is more an act of faith than a reasoned decision. Says Richard Roberts, commissioner of the Securities and Exchange Commission and an outspoken critic of company-sponsored savings plans: "Participants have little or no information about the investment vehicles." You *can* get more out of your 401(k), but it will take extra effort, and some long-awaited changes in government regulations.

A 401(k) plan is now offered by most large U.S. employers. Together these plans hold more than $300 billion in retirement assets. Named for the section of the Internal Revenue Code that created them in 1978, typical 401(k) plans allow employees to shift up to 6% of their salaries before taxes into various investments, choosing from a menu provided by their company. Usually the employer matches part of an employee's contribution, commonly kicking in 50 cents for every worker dollar.

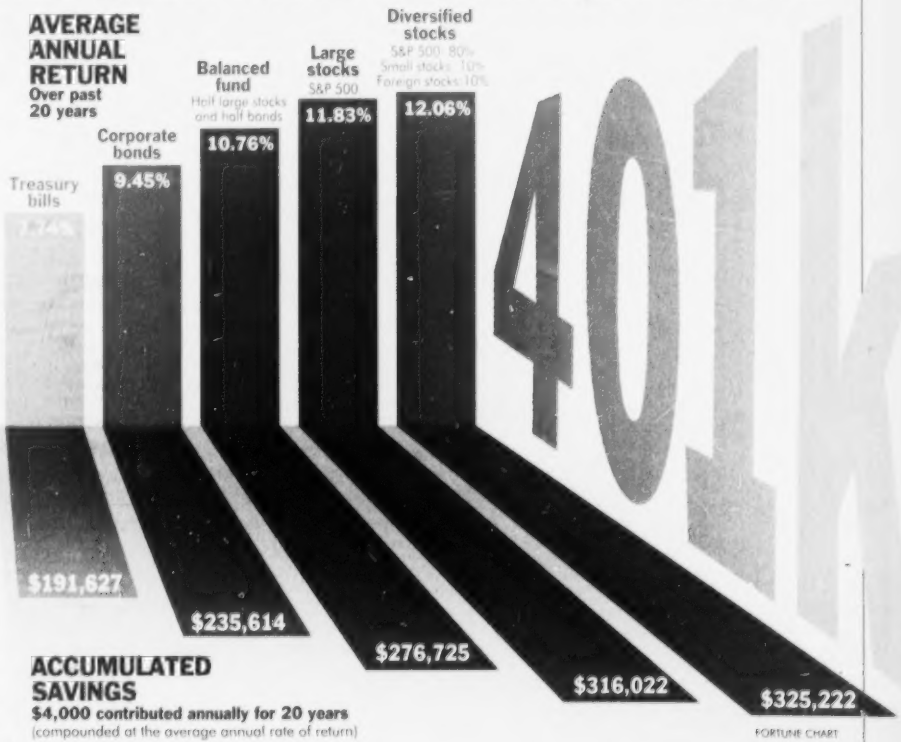
Once salted away, the money can grow unclipped by income taxes until you retire. Unlike the traditional pension, for which your employer guarantees a payout based on your years of service, what you get from a 401(k) depends solely on how much you put in and how well your investments perform.

The problem is that most contributors put too much of their money in safe but low-yielding bonds and guaranteed-investment contracts—known as GICs—and too little in stocks, which are riskier but over the long run pay you more for your money (see chart). According to a survey of 436 large companies conducted by Hewitt Associates, a Lincolnshire, Illinois, benefits consulting firm, employees put 60% of their contributions in GICs, bonds, and money market funds.

Compare that with how professional money managers invest pension funds, which simply do for corporate employees as a whole what your 401(k) does for you as an individual. The pros typically have over 55% of their money in equities and just 35% in bonds and cash. Result: Company pension funds outperform 401(k)s by about two percentage points per year, according to a recent study by Bankers Trust. *continued*

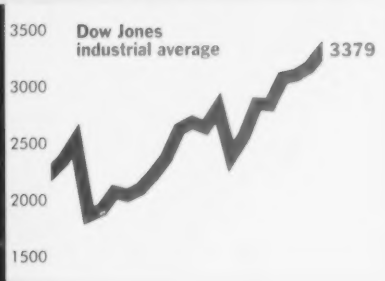
The SEC's Roberts: Lift the veil on 401(k) fees.

THE MANY WAYS YOUR MONEY GROWS



STATE OF THE MARKETS

STOCKS



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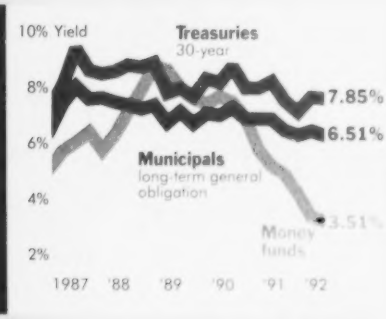

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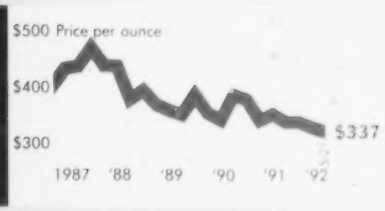
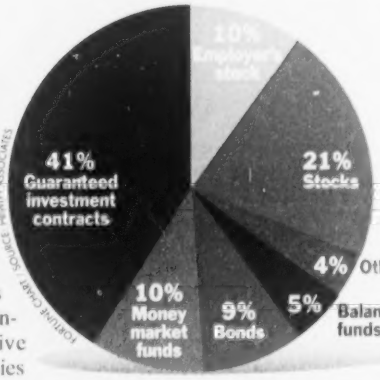


FORTUNE CHARTS. CHARTS SHOW END-OF-QUARTER FIGURES
*BASED ON EARNINGS FOR THE LATEST FOUR QUARTERS
SOURCES: STANDARD & POOR'S, BOND BUYER, IBC/DONOGHUE'S MONEY FUND REPORT, COMMODITY EXCHANGE



HOW FOLKS PLAY THEIR 401(k)

Most employees still sock too much of their savings in low-return money funds and guaranteed investment contracts.

One big reason that employees allocate their 401(k) assets so cautiously is that many have little choice. According to Hewitt, half the plans have three or fewer investment options. Five percent of the companies offered only one option. Says Robert Reynolds, president of Fidelity Institutional Retirement Services Co., which manages $30 billion in 401(k) money: "Without flexibility, you can't help but be more conservative."

That could change soon. The Department of Labor, which acts as watchdog over corporate retirement funds, has been revising the regulations governing 401(k) plans. The new rules, which could take effect this summer, would require plan sponsors to provide more information about investment options and a broader array of choices. Even if those pending regulations become law, employees will still have to take advantage of the new offerings.

The SEC is also on the move to bring 401(k) plans up to date. In a study released in late May, it championed the notion that investment funds offered in all such plans file annual reports and prospectuses. Under the proposal, the information provided would include a complete review of the fees being deducted from the fund's performance, information that is all but impossible to obtain under current rules. This information is becoming increasingly important, as companies have quietly shifted more of the cost of these plans onto employees.

Ideally, say the experts, a 401(k) plan should have at least a half-dozen investment options, although some companies offer more. Employees at Fidelity Investments select from over 45 mutual funds. That abundance reflects Fidelity's business. But even nonfinancial companies should offer six to ten options. In addition to GICs and bond funds, a good 401(k) should offer a small stock fund and an international stock fund, two classes of equities that have provided superior returns over the years. Index funds—which mirror the market's return and typically charge lower fees than other funds—should also be among the options. Such offerings are already available at some companies. Texaco has an S&P 500-stock index fund, IBM has a small stock fund, and Merck has an international stock fund.

What can you do if your plan falls short? First, complain to your management. After all, as employees bear more of the cost of their 401(k), they should have more of a voice in choosing or changing a plan. Keep in mind that expanding the number of choices should not increase the cost of the plan, since an employer typically buys all its services from one provider.

Meanwhile, get as much information as possible about your present plan. Employees have the right to examine the annual reports of their 401(k) plan, which your benefits department must make available to you. While these reports do not include such vital information as the portfolio turnover rate and the names of the investment managers, they do list the assets and investments in the plan, some of the expenses, and the performance figures for each fund.

Use this information to recast your allocation as aggressively as you can tolerate, making sure that you contribute the maximum allowed by law. Unless you expect to retire in the next seven years or so, just about all your 401(k) money should go into stocks. The more of your assets that you keep in equities, the higher your return should be.

If putting all your 401(k) eggs in the equity basket sounds too risky, remember that you may already have two big bond-like nest eggs—Social Security and your company pension plan—hatching quietly off your personal balance sheet. Those will put a roof over your head in retirement. The 401(k), if properly managed, can finance your dreams.

continued

REPORTER ASSOCIATE *William E. Sheeline*

WHAT BUSINESS

As President? Not much, was the short answer to FORTUNE's poll of top CEOs. But nearly half think he could get elected. And small business thinks he's great. ■ *by Thomas A. Stewart*

THEY LOVE him down at the Lions club and the bowling alley, but in the skyscrapers and on the golf courses where the CEOs of America's largest corporations work and play, the idea that Ross Perot might become President of the United States next January raises more eyebrows than hopes. Big-company bosses are much less likely to support their fellow executive's still unofficial quest for the presidency than small-business people or the average Joe and Jane.

That conclusion is based on dozens of interviews with corporate leaders and on a poll conducted exclusively for FORTUNE by the opinion research firm of Clark Martire & Bartolomeo. In the survey, taken from May 18 to 21, CEOs of America's largest corporations—the FORTUNE 500 and Service 500—were asked how they would vote if the election were held today. Result: Only one in ten would pick Perot. This from a group who said—nearly 2 to 1—that they thought a businessman would make a good President. It's *this* businessman that they don't like.

Who the CEOs would vote for

BUSH	78%
CLINTON	4%
PEROT	11%

Remainder undecided

The contrast with broader public opinion is striking: The week before our survey, a wide-ranging *Time*/CNN poll of adults favored Perot (33%) over both Bush (28%) and Clinton (24%). And the CEOs have heard this message. Despite the long odds against an independent candidate, nearly half—44%—believe Perot has a serious shot at winning.

So who do the big bosses like? George Bush, they guess. Of the 115 CEOs who responded, 78% say they would vote to return the President to the White House. Prognosticators, take note, however: Even among this crowd, Bush's support is of the old-mattress variety—soft and saggy. Many chief executives went out of their way to tell our pollsters that they would vote for Bush with little enthusiasm. But, hey, that's better than Arkansas Governor Bill Clinton, the all but certain Democratic nominee, fared. Only 4% would vote for him.

Because the poll guaranteed CEOs anonymity if they wanted it, the results cut through their normal reluctance to badmouth a man who could one day hold their fortunes in his hand. Says an oil company public relations man: "None of us likes Perot, but we don't want to talk about it. If he gets elected, we'll have to work with him." And this just in from a spokeswoman for Coca-Cola, who was asked if her CEO wanted to comment on Perot: "We think people of all parties do and should drink Coca-Cola." We couldn't agree more, though we prefer milk with apple pie.

Most of the big boys, though, like business as usual. They believe in the system, which, after all, has served them well. Bush may distress them, but Skull & Bones and the Petroleum Club are as comfortable as a natural-shoulder suit from Brooks Brothers.

One retired CEO, currently on the boards of five FORTUNE 500 companies and one of those who prefers anonymity, reports, "I haven't met anybody who doesn't think Perot would be an absolute disaster as President." When the Business Council, a corporate chieftain powwow, met at Hot Springs, Virginia, in May, its worthies were given this hypothetical question: What would you say if President-elect Perot asked you what is the most important thing he should do? Howard P. Allen, former CEO of Southern California Edison, didn't

Deep in the heart of Texas: Perot addresses

REPORTER ASSOCIATE *Rosalind Klein Berlin*

PHOTOGRAPH BY DAVID J. SAMS—SIPA

THINKS OF PEROT

supporters in Austin. The cartons hold the signatures of 231,000 voters, over four times what was needed to put him on the ballot in November.

have to think twice. "Resign," he said.

One big doubt in the executives' minds: just what Perot stands for. The iconoclastic Texan has said little so far about what his platform would be if he ran for President and won. Tilting at windmills is one thing; what would he do if he conquered one?

He has allowed that he loathes the federal deficit, and he seems determined actually to *do* something about it, though he has had trouble saying precisely what. He thinks rich folks like himself could pay more in taxes, and he would limit eligibility for entitlements like Medicare and Social Security through means testing. He is passionate about education: Eight years ago he browbeat the coaches, players, and fans of high school football—the toughest lobby in Texas, believe it or not—and got the state to decree that kids who couldn't pass their courses couldn't suit up for games.

Perot never has a mild opinion, but he has strong ideas that aren't easy to reconcile. A loud opponent of the Gulf war, the Annapolis grad has favored military adventurism in the past; though personally puritanical, he supports gay rights and is pro-choice on abortion. But topics like the cities, health care, and foreign policy in the post–Cold War era have not been addressed substantively by Perot. Alan Seelenfreund, CEO of McKesson Corp., the big San Francisco wholesaler, speaks for many corporate leaders when he laments "our complete lack of understanding of where he stands on major issues."

Perot has promised to address the big questions and says he has put teams of experts to work digging into the facts and looking for ideas. His track record suggests that once he focuses his attention, he makes up his mind fast. And once that happens, he can be as stubborn as poverty (for more on Perot's character, see the following article).

Thereby hangs another doubt in the minds of America's big businessmen. Most say that running a company requires a different set of skills from those demanded of political leadership—and they're not sure Perot has them. While 30% of those polled had done business with Perot—and three-fifths of them liked the experience—they tend to believe that the presidency is another game. Says Edward B. Brandon, chairman of National City Corp., the second-biggest bank holding company in Ohio: "I don't think his slam-bang style would serve the country well from the President's office. He would make a super benevolent dictator, but that's not our system."

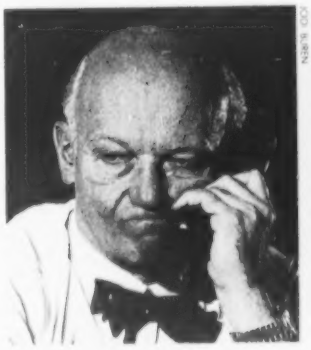
Adds Richard P. Wollenberg, CEO of Longview Fibre, a paper company in Washington State: "Perot's dead right—the federal government has done an abominable job. But I'm not sure he's the cure. He says he knows how to cooperate, but he didn't build a consensus at General Motors." Having sold his company to the auto giant, Perot ended up in a famous row with its management.

Byron Wien, the U.S. investment strategist at Morgan Stanley, thinks the GM episode is a touchstone: "I'm astonished the press has not focused on the impatience factor. General Motors is closer to the structure of the federal government than any company is. Eventually the frustrations of dealing with it drove him out." A well-known chief executive who has done business with Perot and doesn't care to repeat the experience sums up the feeling: What would be President Perot's strengths? "He's authoritarian and gets things done." His weaknesses? "Ditto."

Would Perot's hard-driving style really run into a brick wall in Washington? Richard H. Ayers, CEO of the Stanley Works, worries that "with Perot there's a risk that the gridlock in Washington could be even worse than it is now." H&R Block Chairman Henry Bloch thinks that "a dogmatic CEO like Perot would have difficulty functioning in Washington unless he could destroy Congress." Jack Albertine, former head of the American Business Conference, a lobbying group for fast-growth companies, speculates that a victorious Perot might cow the solons—for a while. "Congress would run scared for up to a year," he says. "Whether they'd eventually wear him down or not is another matter."

The disdain of America's corporate elite is not likely to bother Perot, whose respect for the establishment is less than complete. He has written scornfully of "these CEOs wandering around with their blow-dried hair, their $3,000 suits, their 23-year-old trophy wives." Anyway, as he knows full well, if the CEOs of every company on FORTUNE's lists of the 500 biggest industrial and service corporations lined up outside the same voting booth and pulled the lever for Bush, that probably wouldn't be enough to elect a dogcatcher in Enterprise, Alabama.

A few top executives, like Alan "Ace" Greenberg, CEO of Bear Stearns, are big supporters of Perot. Says Greenberg: "I've known Ross for ten years. I like him. I think he's brilliant. He's who I want for President." Despite his worries about potential gridlock, Stanley's Ayers has changed from being a Bushman to a mugwump: "I think



"I've known Ross for ten years. I like him. I think he's brilliant. He's who I want for President."

ALAN "ACE" GREENBERG
Bear Stearns

"He would make a super benevolent dictator, but that's not our system."

EDWARD B. BRANDON
National City Corp.

Would a business executive make a good President?

YES	65%
NO	19%
NOT SURE	16%

Could Perot be elected?

YES	44%
NO	53%
NOT SURE	3%

Perot is very refreshing. I'd be tempted to vote for him."

Where you really start to hear the fervor is from the nation of shopkeepers backing Perot. Gordon Betts, owner of a brass shop in Nevada City, California, speaks for legions of small-business owners and entrepreneurs when he says, "I'd vote for him in a minute. He's got moxie, and he's not in anybody's pocket."

Such supporters don't think of Perot as some sacrificial lamb—a George Wallace or Eugene McCarthy for the 1990s—whose defeat will allow them "to make a statement." They don't want to send a message to Washington; they want to send *Ross*. They want him to go in there and kick some butt, to quit piling up debt, and to throw the rascals out—bodily, if need be—from offices too cushy, limousines too long, and barbershops too subsidized. Says Ted Rozar, owner of a small telecommunications consultancy in New York City: "I couldn't care less about getting him on the ballot if I didn't think we could get him in the White House." That's rattling Wall Street, which doesn't like uncertainty. Says Morgan Stanley's Wien: "The possibility of an election being thrown into the House of Representatives is something we haven't faced since 1824. But America believes the system doesn't work. Perot's a real candidate."

What would be Perot's strengths as President?

STRONG LEADER	24%
DECISIVE	19%
FRESH VIEWS	17%
NO POLITICAL BAGGAGE	17%

His weaknesses?

NO POLITICAL EXPERIENCE	52%
CAN'T HANDLE CONGRESS	19%
TOO DOMINEERING	11%
UNCOMPROMISING	11%

Why the greater enthusiasm for Perot among small-business men? Partly it's the little guys' feeling that Perot is one of them. Banker John Canepa runs a big company—Old Kent Financial in Grand Rapids, Michigan, which has $9 billion in assets—but lots of his borrowers are small-business men. Canepa will probably vote for Bush, but thinks his customers will go for Perot: "Entrepreneurs like him. They see a lot of themselves in him."

Identification with Perot reaches a peak in Silicon Valley. "I'd definitely vote for him," says Andrea Cunningham, head of a fast-growing public relations company in Santa Clara that bears her name. "A lot of people here are pro-Perot." One is Steve Jobs, who got some $20 million in seed money from Perot in 1987 to help launch Next Inc.: "I've been encouraging him for the last five years to run for President."

But there's more to it than that. Two of Perot's hot buttons—recession and regulation—make small-business men jump too. "An economic downturn hurts big companies, but it can kill small ones," says Jack Albertine. As for regulations, no executive likes them, but large companies have departments full of clerks to handle the paperwork; little guys have to do it themselves and feel the pain in their personal posteriors. Says Jack Faris, head of the National Federation of Independent Business, which represents 585,000 companies with fewer than 200 employees: "Small-business owners are supposed to provide jobs and make America competitive, but they spend their time filling out government forms."

Even some business leaders who expect to vote for one of the major-party candidates seem to welcome Perot's presence on the political scene. Stanley Marcus, former CEO of Neiman Marcus, won't necessarily vote for Perot in November, but he anted up to help get his old friend on the ballot in Texas because he thinks Perot is forcing Bush and Clinton to talk about things they would just as soon the public forgot, like the national debt. Former FDIC head William Seidman, who isn't ready to say how he'll vote, pinpoints another aspect of Perot's appeal: "He's a can-do guy in an era where 'can't-do' has been a major theme."

The yearning for change and the fever of frustration are palpable even in CEOs who say they'll probably stick with Bush. Says McKesson's Seelenfreund: "If he could create a vision for the country, the way he did for his company, he could unite us and get us moving again. He could be our first John F. Kennedy since John F. Kennedy, and the country needs someone like that." As that statement hints, something remarkable seems to be happening in this already extraordinary election year: Perot has become more than a businessman, more than a politician, more than a billionaire. He's taking on mythic proportions. ■

HOTELS

UNITED STATES

Austin

Boston

Chicago

Chicago
(Ritz-Carlton)

Houston

Los Angeles

New York
(The Pierre)

Newport Beach

Philadelphia

San Francisco

Seattle

Washington, D.C.

CANADA

Montreal

Toronto

Toronto
(Inn on the Park)

Vancouver

UNITED KINGDOM

London
(Inn on the Park)

JAPAN

Tokyo

RESORTS

Minaki, Canada

Nevis, W.I.

Dallas
(Las Colinas)

Maui
(Wailea)

Santa Barbara
(The Biltmore)

UNDER DEVELOPMENT

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WHAT CEOs REALLY MAKE

It was a sneaky year: With profits down, salaries and bonuses held steady—but oh, boy, those option grants. Still, most of the big winners earned their money.

■ *by Shawn Tully*

FROM THE DIN of the campaign trail to the cross fire at annual meetings, the issue of executive pay is stirring outrage and cries for reform. FORTUNE's survey of CEO pay at 200 of America's largest companies indicates that the galloping rise in salaries and bonuses slowed to a walk last year in the face of sagging profits. But CEOs are still making more than you think: Companies are stuffing pay packages with a less visible but highly lucrative form of compensation, stock options and other stock grants. Top executive pay may be shifting vehicles, but it's still climbing.

FORTUNE's survey, prepared by Wyatt Co., a leading human resources and compensation consulting firm, examines pay differently from most surveys you've seen—and in a way that yields important insight. The difference centers on those stock grants, the fastest-growing element of CEO pay. The common practice is to report the gain a CEO gets when he exercises options or when other grants become vested, adding it to salary, bonus, and other compensation to produce a total pay figure. But that approach is seriously flawed: It misses an enormous amount of pay because CEOs commonly wait to exercise most of their options until after they retire, when their pay is no longer reported in public documents.

Our approach is to define pay as salary, bonus, and the estimated value of stock options and restricted stock *granted* in 1991. We also present long-term pay, mainly those reported values for gains on options exercised, in a separate column. The advantages are many:

■ Valuing options when they're granted rather than when they're exercised means major components of pay don't escape public notice.

■ This approach illuminates the most important trend in CEO pay, which the other surveys missed: the big increases in option grants.

■ Richard Breeden, chairman of the Securities and Exchange Commission, has asked his chief accountant to investigate making companies value option grants much as this survey does and to report the results in proxy statements. Here you get to see what that information could look like.

Placing a value on stock options when they're granted is speculative, to be sure. The executive may leave the company before the options become vested, in which case he forfeits them, and the stock price is hard to predict. Still, the risky but potentially spectacular gains on options give them tremendous value today. Using its own version of a widely employed economic model, Wyatt assigns the options a present value based on past performance of the company stock, dividends, and projected interest rates.

ROBERTO GOIZUETA

HAMISH MAXWELL

STANLEY GAULT

LAWRENCE BOSSIDY

WILLIAM SCHREYER

The survey reveals the importance of options and of restricted stock, shares given outright to an executive on the condition he not sell them for a certain period, typically three to five years. Median salary and bonus for our sample stood at $1.2 million, a tiny increase over 1990, according to Wyatt. But newly granted stock options and restricted stock added another $1.2 million to median 1991 pay, lifting the total to $2.4 million. While we didn't compare option grants from this year with those from preceding years, it certainly appears that companies are piling on the options. Says Michael Halloran, the Wyatt consultant who supervised the survey: "I'd estimate that the value of option grants rose at least 10% over 1990." The grants are especially lavish at the very top of the list. The 19 top-paid CEOs received a median of $8.8 million—or nearly 86% of their median total 1991 compensation—in stock grants.

MOST OF THOSE highly paid CEOs won't hear many complaints from shareholders. The top five have performed brilliantly. America's highest-paid CEO, Roberto C. Goizueta of Coca-Cola, received $58.9 million of compensation last year, $56 million in the form of a million-share restricted stock grant; he can't sell the shares until 1996. That's one of the largest stock grants ever seen—with the stock price up, its value has since risen to over $85 million—but consider that Coke's total return to shareholders has averaged a stunning 35% a year over the past decade, 43% a year over the past four years.

It's a similar story with Hamish Maxwell, Philip Morris's recently retired CEO. Even a $28.2 million farewell stock option grant

REPORTER ASSOCIATE *Kate Balken*

COMPENSATION FOR 200 TOP CEOs

Pay Rank	CEO, Company	1991 SALARY & BONUS (all dollar amounts in thousands)	VALUE OF 1991 STOCK GRANTS	TOTAL	% CHANGE FROM 1990 Salary & bonus	% CHANGE FROM 1990 Company profits	GAINS ON STOCK OPTIONS & OTHER LONG-TERM PAY	TOTAL RETURN TO INVESTORS 1987-91 Annual rate %	TOTAL RETURN TO INVESTORS 1987-91 Annual rate Rank
1	**ROBERTO C. GOIZUETA,** Coca-Cola	2,962	55,971	58,933	0	17.1	944	42.6	5
2	**HAMISH MAXWELL,** Philip Morris	1,741	28,201	29,942	(27.7)	(15.1)	13,937	38.8	8
3	**STANLEY C. GAULT,** Goodyear Tire & Rubber	735	21,801	22,536	N.A.	N.A.	0	(3.3)	171
4	**LAWRENCE A. BOSSIDY,** Allied-Signal	809	21,393	22,202	N.A.	(159.1)	0	10.9	101
5	**WILLIAM A. SCHREYER,** Merrill Lynch	5,850	9,908	15,758	255.6	262.8	6,921	26.7	28
6	**STEPHEN M. WOLF,** UAL	575	13,605	14,180	0	(451.4)	2,235	19.2	50
7	**NOLAND D. ARCHIBALD,** Black & Decker	1,336	12,194	13,529	3.4	3.7	270	(2.5)	167
8	**ROBERT E. ALLEN,** American Telephone & Telegraph	2,061	10,716	12,777	2.0	(80.9)	828	9.4	109
9	**RICHARD J. MAHONEY,** Monsanto	1,530	9,078	10,608	25.4	(45.8)	993	13.0	86
10	**JOHN F. WELCH JR.,** General Electric	3,207	7,047	10,254	7.5	(38.7)	1,894	14.7	75
11	**WILLIAM D. SMITHBURG,** Quaker Oats	1,405	8,805	10,210	30.4	21.8	2,238	15.8	68
12	**RICHARD D. WOOD,** Eli Lilly	2,218	7,893	10,111	24.5	16.6	3,857	20.9	43
13	**P. ROY VAGELOS,** Merck	3,344	6,356	9,701	N.A.	19.1	0	33.2	15
14	**RAND V. ARASKOG,** ITT	2,800	5,830	8,630	(28.0)	(14.7)	1,080	6.9	126
15	**H. BREWSTER ATWATER JR.,** General Mills	1,431	7,148	8,579	0	23.9	3,100	30.9	21
16	**DENNIS J. PICARD,** Raytheon	1,208	7,351	8,560	30.6	6.2	0	5.7	132
17	**LAWRENCE G. RAWL,** Exxon	1,813	6,596	8,409	16.9	11.8	7,453	12.3	90
18	**WILLIAM E. LAMOTHE,** Kellogg	1,852	6,245	8,098	19.4	20.5	7,080	25.5	29
19	**JAMES L. JOHNSON,** GTE	2,168	5,686	7,854	24.5	2.5	711	17.6	58
20	**J. PETER GRACE,** W.R. Grace	1,706	6,066	7,772	7.6	7.8	0	11.7	94
21	**RICHARD B. FISHER,** Morgan Stanley Group	7,622	0	7,622	111.4	75.9	0	38.9	7
22	**DARWIN E. SMITH,** Kimberly-Clark	1,428	5,819	7,247	4.4	17.6	0	19.4	48
23	**WILLIAM A. ANDERS,** General Dynamics	1,500	5,668	7,168	N.A.	N.A.	2,950	2.4	145
24	**WILLIAM J. ALLEY,** American Brands	1,826	4,860	6,686	12.2	37.0	89	18.9	52
25	**DREW LEWIS,** Union Pacific	2,025	4,492	6,517	6.0	(89.6)	2,131	17.3	61
26	**PAUL E. LEGO,** Westinghouse Electric	677	5,546	6,224	(59.7)	(505.2)	0	(6.8)	182
27	**ALFRED M. ZEIEN,** Gillette	1,112	4,949	6,061	41.6	16.0	2,724	40.5	6
28	**JOHN R. STAFFORD,** American Home Products	1,840	3,774	5,614	8.2	11.8	3,790	22.7	37
29	**RICHARD L. GELB,** Bristol-Myers Squibb	2,051	3,462	5,513	(2.4)	17.6	10,607	20.5	44
30	**MICHAEL D. EISNER,** Walt Disney	5,442	0	5,442	(51.6)	(22.8)	0	17.7	56
31	**ALAN C. GREENBERG,** Bear Stearns	5,299	0	5,299	25.8	20.2	0	22.9	36
32	**WILLIAM G. MCGOWAN,** MCI Communications	1,594	3,561	5,155	10.4	84.3	2,594	34.1	13
33	**JOSHUA S. WESTON,** Automatic Data Processing	879	4,162	5,041	12.7	7.6	536	19.3	49
34	**HAROLD A. POLING,** Ford Motor	1,141	3,892	5,033	N.A.	(362.5)	0	(6.4)	179
35	**CHARLES S. SANFORD JR.,** Bankers Trust New York Corp.	1,850	3,163	5,013	23.3	0.3	2,184	18.7	53
36	**JOHN A. YOUNG,** Hewlett-Packard	1,519	3,459	4,979	2.4	2.2	1,492	(0.4)	158
37	**DENNIS WEATHERSTONE,** J.P. Morgan & Co.	2,043	2,638	4,681	30.1	14.0	2,069	16.2	67
38	**WALTER V. SHIPLEY,** Chemical Banking Corp.	1,716	2,812	4,528	132.4	(47.1)	606	(3.1)	170
39	**RICHARD M. ROSENBERG,** BankAmerica Corp.	1,600	2,878	4,478	0	0.8	2,350	52.4	3
40	**DAVID R. WHITWAM,** Whirlpool	1,590	2,740	4,330	59.6	136.1	0	11.9	92
41	**JOHN S. REED,** Citicorp	1,150	3,062	4,212	1.0	(199.8)	0	(13.6)	191
42	**DAVID W. JOHNSON,** Campbell Soup	1,444	2,711	4,155	N.A.	9,025.0	0	31.7	20
43	**STEVEN J. ROSS,** Time Warner	4,064	0	4,064	24.5	N.A.	4,033	1.6	148
44	**ANDREW C. SIGLER,** Champion International	1,144	2,905	4,049	(7.7)	(81.8)	0	(8.7)	186
45	**ALLEN E. MURRAY,** Mobil	2,040	1,967	4,007	9.4	(0.5)	2,625	14.5	79
46	**KENNETH L. LAY,** Enron	1,754	2,201	3,955	14.2	19.8	2,467	14.9	74
47	**T. MARSHALL HAHN JR.,** Georgia-Pacific	1,500	2,435	3,935	0	(138.9)	704	11.6	95
48	**THOMAS G. LABRECQUE,** Chase Manhattan Corp.	1,180	2,744	3,924	73.5	N.A.	0	(6.6)	181
49	**EDGAR S. WOOLARD JR.,** E.I. Du Pont de Nemours	1,356	2,552	3,908	1.3	(39.3)	21	12.4	88
50	**RAY R. IRANI,** Occidental Petroleum	2,691	1,215	3,905	28.4	N.A.	149	(8.0)	184

Salary & bonus includes some long-term pay.
Profit declines over 100% reflect swings from 1990 profits to 1991 losses.

COMPENSATION

Pay Rank	CEO, Company	1991 SALARY & BONUS (all dollar amounts in thousands)	VALUE OF 1991 STOCK GRANTS	TOTAL	% CHANGE FROM 1990 Salary & bonus	% CHANGE FROM 1990 Company profits	GAINS ON STOCK OPTIONS & OTHER LONG-TERM PAY	TOTAL RETURN TO INVESTORS 1987–91 Annual rate %	TOTAL RETURN TO INVESTORS 1987–91 Annual rate Rank
51	**JOHN F. AKERS,** International Business Machines	1,575	2,327	3,902	(40.1)	(147.0)	921	(5.9)	177
52	**B. F. DOLAN,** Textron	2,860	959	3,818	N.A.[1]	6.0	175	14.6	76
53	**EDWIN L. ARTZT,** Procter & Gamble	1,806	2,003	3,809	25.8	10.7	372	21.5	42
54	**JOHN W. SNOW,** CSX	1,235	2,546	3,782	27.8	(165.4)	1,825	18.3	55
55	**JOSEPH T. GORMAN,** TRW	1,099	2,661	3,760	7.3	(167.3)	141	(2.9)	169
56	**TERRENCE MURRAY,** Fleet/Norstar Financial Group	1,402	2,215	3,617	85.5	N.A.	N.A.	2.3	146
57	**LODWRICK M. COOK,** Atlantic Richfield	1,674	1,893	3,567	(26.1)	(64.7)	2,009	11.4	97
58	**JAMES W. KINNEAR,** Texaco	1,667	1,842	3,509	(13.5)	(10.8)	1,566	14.1	80
59	**DUANE L. BURNHAM,** Abbott Laboratories	1,340	2,154	3,495	15.4	12.7	2,867	29.8	24
60	**DEAN L. BUNTROCK,** Waste Management	1,100	2,359	3,459	(30.5)	(11.5)	2,647	22.3	38
61	**CARL E. REICHARDT,** Wells Fargo & Co.	775	2,665	3,440	(47.2)	(97.1)	0	8.6	117
62	**GERALD GRINSTEIN,** Burlington Northern	1,180	2,244	3,424	(8.3)	(235.6)	0	(10.4)	187
63	**TED C. WETTERAU,** Wetterau	1,095	2,302	3,397	22.2	10.0	0	9.4	110
64	**RICHARD D. MCCORMICK,** US West	660	2,593	3,253	(22.5)	(53.9)	758	10.1	106
65	**ARNOLD B. MCKINNON,** Norfolk Southern	1,735	1,513	3,248	N.A.[1]	(94.7)	1,180	22.1	39
66	**RICHARD K. EAMER,** National Medical Enterprises	1,398	1,816	3,214	4.9	13.8	15,516	15.4	69
67	**CHARLES W. MORITZ,** Dun & Bradstreet	1,629	1,565	3,195	11.2	0.1	812	1.5	151
68	**CHARLES M. HARPER,** ConAgra	2,463	655	3,118	52.1	35.5	4,749	32.9	16
69	**WILLIAM R. HOWELL,** J.C. Penney	937	2,150	3,087	(6.3)	(86.1)	387	6.5	127
70	**ROBERT MCCLEMENTS JR.,** Sun	2,631[1]	440	3,072	N.A.[1]	(269.0)	0	(11.3)	189
71	**JOHN W. TEETS,** Dial	2,161	778	2,939	6.1	(451.8)	1,399	15.1	72
72	**N. J. NICHOLAS JR.,** Time Warner	2,900	0	2,900	22.8	N.A.	629	1.6	150
73	**MAURICE R. GREENBERG,** American International Group	1,950	889	2,839	11.4	7.7	0	19.7	46
74	**ANDREW T. DWYER,** JWP	574	2,253	2,827	(63.5)	1.6	1,733	25.3	30
75	**FRANK P. POPOFF,** Dow Chemical	1,069	1,757	2,826	14.6	(31.9)	256	(2.1)	164
76	**LEE A. IACOCCA,** Chrysler	976	1,835	2,811	(14.1)	(1,269.0)	2,020	(14.2)	195
77	**JOHN B. MCCOY,** Banc One Corp.	1,783	1,028	2,811	42.9	25.1	99	27.2	26
78	**H. LAURANCE FULLER,** Amoco	1,302	1,472	2,774	14.0	(22.4)	236	9.2	113
79	**MARTIN S. DAVIS,** Paramount Communications	2,750	0	2,750	(24.6)	(52.8)	2,281	2.2	147
80	**JAMES J. RENIER,** Honeywell	1,276	1,458	2,734	(13.1)	(13.3)	1,292	24.3	32
81	**JAMES D. ROBINSON III,** American Express	1,625	1,088	2,713	(9.6)	335.9	0	(2.4)	166
82	**WILLIAM C. FERGUSON,** Nynex	1,215	1,484	2,698	16.2	(36.7)	343	5.8	131
83	**ALLEN F. JACOBSON,** Minnesota Mining & Mfg.	1,301	1,386	2,687	2.4	(11.8)	1,216	9.5	107
84	**JAMES F. MONTGOMERY,** Great Western Financial Corp.	1,719	946	2,665	27.3	54.4	0	4.4	137
85	**KENNETH T. DERR,** Chevron	1,386	1,230	2,616	25.7	(43.3)	351	14.5	78
86	**GEORGE M.C. FISHER,** Motorola	1,118	1,493	2,611	20.1	(9.0)	0	7.0	124
87	**VERNON R. LOUCKS JR.,** Baxter International	1,786	814	2,599	2.1	1,377.5	2,524	15.1	73
88	**MELVIN R. GOODES,** Warner-Lambert	1,287	1,275	2,561	23.6	(92.8)	1,665	23.0	35
89	**NORMAN R. AUGUSTINE,** Martin Marietta	1,262	1,286	2,548	12.5	(4.4)	3,041	9.1	114
90	**RICHARD H. DEIHL,** H.F. Ahmanson	1,214	1,321	2,535	(0.9)	28.7	115	1.2	152
91	**WILLIAM C. STEERE JR.,** Pfizer	1,113	1,418	2,531	55.4	(9.9)	843	37.0	9
92	**LESLIE G. MCCRAW,** Fluor	1,111	1,400	2,511	23.6	9.5	2,191	33.6	14
93	**EDWARD A. BRENNAN,** Sears Roebuck	980	1,511	2,491	0.1	41.8	1,434	3.0	143
94	**PHILIP E. LIPPINCOTT,** Scott Paper	600	1,858	2,458	(0.5)	(147.2)	122	(0.2)	156
95	**R. J. VENTRES,** Borden	1,514[1]	936	2,450	N.A.[1]	(18.9)	0	7.4	122
96	**WILLIAM O. BOURKE,** Reynolds Metals	1,090	1,354	2,444	(24.4)	(48.0)	0	4.2	139
97	**JOSEPH E. ANTONINI,** Kmart	1,546	889	2,435	55.7	13.6	0	12.5	87
98	**BARRY F. SULLIVAN,** First Chicago Corp.	770	1,662	2,432	4.7	(53.3)	0	7.0	125
99	**ROBERT C. STEMPEL,** General Motors	1,000	1,402	2,402	15.1	N.A.	665	(2.1)	163
100	**ROBERT D. KENNEDY,** Union Carbide	808	1,583	2,391	(42.9)	(109.1)	0	(2.2)	165

[1]Salary & bonus includes some long-term pay. [2]1991 salary & bonus includes special severance pay. Profit declines over 100% reflect swings from 1990 profits to 1991 losses.

Pay Rank	CEO, Company	1991 SALARY & BONUS (all dollar amounts in thousands)	VALUE OF 1991 STOCK GRANTS	TOTAL	% CHANGE FROM 1990 Salary & bonus	% CHANGE FROM 1990 Company profits	GAINS ON STOCK OPTIONS & OTHER LONG-TERM PAY	TOTAL RETURN TO INVESTORS 1987-91 Annual rate %	TOTAL RETURN TO INVESTORS 1987-91 Annual rate Rank
101	**J. WILLARD MARRIOTT JR.**, Marriott	1,304	1,072	2,376	79.8	74.5	0	(13.5)	190
102	**SETH E. SCOFIELD**, USAir Group	467	1,886	2,353	22.5	N.A.	425	(22.6)	198
103	**ROBERT L. CRANDALL**, AMR	600	1,722	2,322	0	500.0	3,336	18.9	51
104	**MICHAEL W. WRIGHT**, Super Valu Stores	893	1,350	2,244	(1.3)	5.0	317	11.1	99
105	**PAUL A. ALLAIRE**, Xerox	1,083	1,159	2,242	(8.7)	87.2	507	4.6	136
106	**GEORGE J. SELLA JR.**, American Cyanamid	1,309	872	2,181	5.8	1.7	1,164	11.4	96
107	**LAURENCE A. TISCH**, CBS	1,383	765	2,148	2.4	(177.4)	0	(2.7)	168
108	**RALPH S. LARSEN**, Johnson & Johnson	1,253	887	2,140	N.A.	27.8	1,164	32.0	18
109	**DANIEL M. TELLEP**, Lockheed	1,225	885	2,110	21.1	(8.1)	90	7.1	123
110	**JOHN A. GEORGES**, International Paper	1,357	730	2,086	(5.8)	(67.7)	1,545	13.6	82
111	**RAYMOND W. SMITH**, Bell Atlantic	1,457	614	2,071	13.5	(117.0)	1,294	10.2	104
112	**HOWARD M. LOVE**, National Intergroup	2,052	0	2,052	125.4	(629.3)	313	3.9	141
113	**WAYNE CALLOWAY**, PepsiCo	1,912	133	2,045	0.6	0.3	0	31.9	19
114	**WILLIAM J. AGEE**, Morrison Knudsen	2,027	0	2,027	N.A.	2.0	432	10.1	105
115	**PAUL B. FIREMAN**, Reebok International	2,007	0	2,007	(86.5)	32.9	0	32.7	17
116	**DAVID D. GLASS**, Wal-Mart Stores	710	1,295	2,005	12.7	20.0	0	45.8	4
117	**DWAYNE O. ANDREAS**, Archer-Daniels-Midland	2,000	0	2,000	2.8	(3.5)	0	29.8	23
118	**HUGH L. MCCOLL JR.**, NationsBank Corp.	2,000	0	2,000	185.7	44.8	1,353	23.5	34
119	**JOHN L. CLENDENIN**, BellSouth	1,356	641	1,996	(1.2)	(9.8)	42	9.0	115
120	**DONALD E. MOFFITT**, Consolidated Freightways	623	1,345	1,968	N.A.	N.A.	0	(14.2)	194
121	**EDWARD H. BUDD**, Travelers Corp.	869	1,087	1,957	33.9	N.A.	0	(11.2)	188
122	**AUGUST A. BUSCH III**, Anheuser-Busch	1,879	56	1,935	8.1	11.6	4,776	16.5	65
123	**FRANK SHRONTZ**, Boeing	1,188	746	1,934	8.5	13.1	0	30.0	22
124	**VINCENT A. SARNI**, PPG Industries	1,039	888	1,927	(34.5)	(41.8)	701	11.1	100
125	**JAMES L. KETELSEN**, Tenneco	1,470	456	1,926	(21.8)	(237.8)	21	(5.5)	173
126	**DAVID A. JONES**, Humana	1,366	525	1,891	19.7	14.5	5,045	20.1	45
127	**RICHARD A. CLARKE**, Pacific Gas & Electric	1,461	390	1,851	32.9	4.0	0	17.2	62
128	**KENNETH A. MACKE**, Dayton Hudson	1,165	681	1,846	(28.8)	(26.9)	398	22.0	41
129	**ANDREW S. GROVE**, Intel	1,115	726	1,841	29.7	25.9	0	16.6	64
130	**C. J. SILAS**, Phillips Petroleum	825	1,001	1,826	(28.9)	(66.9)	1,317	14.5	77
131	**CHARLES F. KNIGHT**, Emerson Electric	1,804	0	1,804	1.6	3.0	0	12.2	91
132	**KAY R. WHITMORE**, Eastman Kodak	1,146	636	1,782	(19.0)	(97.6)	49	(0.2)	157
133	**CARL H. LINDNER**, Penn Central	875	906	1,781	18.6	(97.3)	0	6.4	128
134	**JOHN H. BRYAN**, Sara Lee	1,751	0	1,751	15.6	13.8	0	34.2	12
135	**REUBEN MARK**, Colgate-Palmolive	1,748	0	1,748	12.4	(61.1)	0	25.2	31
136	**CHARLES R. SHOEMATE**, CPC International	921	818	1,739	21.4	(0.3)	375	22.1	40
137	**RONALD W. ALLEN**, Delta Air Lines	475	1,257	1,732	(3.4)	(207.1)	563	15.2	71
138	**WILLIAM T. ESREY**, Sprint	905	748	1,653	(20.8)	19.0	1,470	16.9	63
139	**JERRY R. JUNKINS**, Texas Instruments	604	962	1,566	0.8	N.A.	5	(13.6)	192
140	**JOHN R. HALL**, Ashland Oil	1,038	524	1,562	(5.6)	(20.3)	0	0.9	153
141	**ROBERT F. DANIELL**, United Technologies	1,166	354	1,520	(14.1)	(236.0)	0	12.3	89
142	**DONALD R. BEALL**, Rockwell International	1,517	0	1,517	1.7	(3.7)	695	9.5	108
143	**J. L. SCOTT**, American Stores	1,511	0	1,511	1.6	9.3	528	7.7	121
144	**RICHARD J. STEGEMEIER**, Unocal	913	585	1,498	N.A.	(81.8)	0	13.3	84
145	**EDWARD L. ADDISON**, Southern	972	496	1,468	N.A.	45.0	0	10.5	103
146	**JOHN J. MURPHY**, Dresser Industries	1,071	387	1,458	(3.4)	(20.4)	579	11.7	93
147	**JAMES R. PAUL**, Coastal	814	609	1,423	(6.4)	(57.3)	913	9.3	112
148	**EDWARD E. CRUTCHFIELD JR.**, First Union Corp.	650	761	1,411	8.3	5.0	281	11.3	98
149	**ORION L. HOCH**, Litton Industries	1,406	0	1,406	5.3	(64.5)	0	5.1	134
150	**M. ANTHONY BURNS**, Ryder System	764	610	1,374	(1.5)	(67.2)	0	(6.3)	178

Salary & bonus includes some long-term pay.
Profit declines over 100% reflect swings from 1990 profits to 1991 losses.

COMPENSATION

Pay Rank	CEO, Company	1991 SALARY & BONUS (all dollar amounts in thousands)	VALUE OF 1991 STOCK GRANTS	TOTAL	% CHANGE FROM 1990 Salary & bonus	% CHANGE FROM 1990 Company profits	GAINS ON STOCK OPTIONS & OTHER LONG-TERM PAY	TOTAL RETURN TO INVESTORS 1987–91 Annual rate %	TOTAL RETURN TO INVESTORS 1987–91 Annual rate Rank
151	**ANTHONY J.F. O'REILLY,** H.J. Heinz	1,361	0	1,361	10.5	12.6	73,724	17.7	57
152	**JOHN SCULLEY,** Apple Computer	1,338	0	1,338	(39.2)	(34.8)	0	7.7	120
153	**CHARLES A. CORRY,** USX	1,313	19	1,332	(17.6)	(173.4)	821	(5.6)	174
154	**PRESTON R. TISCH,** Loews	1,324	0	1,324	6.3	12.4	0	13.1	85
155	**HANS W. BECHERER,** Deere	654	663	1,317	(36.2)	(104.9)	163	9.3	111
156	**RICHARD A. SMITH,** General Cinema	1,275	0	1,275	3.4	(363.5)	0	(0.7)	161
157	**WILLIAM L. WEISS,** Ameritech	1,270	0	1,270	(1.9)	(7.0)	911	10.5	102
158	**KENT KRESA,** Northrop	1,261	0	1,261	12.1	(4.6)	946	0.7	154
159	**PAUL H. O'NEILL,** Aluminum Co. of America	562	697	1,259	(31.8)	(78.8)	655	8.4	118
160	**THOMAS H. CRUIKSHANK,** Halliburton	1,200	0	1,200	9.1	(86.5)	427	2.6	144
161	**WILLIAM P. STIRITZ,** Ralston Purina	1,198	0	1,198	3.1	(1.1)	12,615	15.3	70
162	**JOHN F. WOODHOUSE,** Sysco	1,067	110	1,177	(5.3)	16.1	0	36.0	11
163	**ROGER W. STONE,** Stone Container	804	343	1,147	N.A.[1]	(151.5)	1,206	1.8	148
164	**GEORGE H. WEYERHAEUSER,** Weyerhaeuser	515	616	1,131	(53.4)	(141.1)	528	1.8	149
165	**ROBERT CIZIK,** Cooper Industries	1,124	0	1,124	(16.3)	8.8	5,175	19.6	47
166	**SAM L. GINN,** Pacific Telesis Group	1,114	0	1,114	15.6	(1.5)	727	13.4	83
167	**LOUIS E. AZZATO,** Foster Wheeler	903	193	1,096	(11.7)	13.0	60	17.5	59
168	**RICHARD D. SANFORD,** Intelligent Electronics	1,093	0	1,093	26.4	30.6	0	73.3	1
169	**JAMES T. LYNN,** Aetna Life & Casualty	1,087	0	1,087	1.9	(17.8)	0	(0.6)	159
170	**LEON MACHIZ,** Avnet	1,064	0	1,064	(6.9)	9.0	101	3.4	142
171	**WILSON H. TAYLOR,** Cigna	1,058	0	1,058	3.0	36.1	623	8.3	119
172	**HERBERT M. SANDLER,** Golden West Financial Corp.	775	255	1,030	7.5	32.0	0	36.6	10
173	**MARION O. SANDLER,** Golden West Financial Corp.	775	255	1,030	7.5	32.0	0	36.6	10
174	**KENNETH H. OLSEN,** Digital Equipment	995	N.A.	995	1.3	(930.0)	0	(20.0)	196
175	**J. CARTER BACOT,** Bank of New York Co.	836	154	990	(10.7)	(60.4)	68	4.3	138
176	**DONALD V. FITES,** Caterpillar	523	464	987	25.3	(292.4)	0	(7.8)	183
177	**SOUTHWOOD J. MORCOTT,** Dana	574	403	977	10.4	(82.1)	0	(4.7)	172
178	**KENNETH N. PONTIKES,** Comdisco	896	0	896	(41.7)	(27.4)	0	4.2	140
179	**WILLIAM C. MCCORD,** Enserch	650	228	878	(34.4)	(76.5)	51	(5.8)	176
180	**JOHN F. MCDONNELL,** McDonnell Douglas	851	0	851	47.2	38.2	0	5.0	135
181	**DANIEL B. BURKE,** Capital Cities/ABC	842	0	842	(7.2)	(28.1)	2,839	5.9	130
182	**WILLIAM D. RUCKELSHAUS,** Browning-Ferris Industries	806	0	806	0	N.A.	0	(5.7)	175
183	**RAY B. MUNDT,** Alco Standard	743	43	786	(29.4)	10.7	865	13.7	81
184	**E. DEAN WERRIES,** Fleming	764	0	764	11.8	(297.6)	322	5.9	129
185	**JAMES R. UKROPINA,** Pacific Enterprises	594	169	763	(24.8)	N.A.	440	(14.2)	193
186	**DAVID W. GRAINGER,** W.W. Grainger	744	0	744	3.3	0.8	174	16.5	66
187	**JOSEPH A. PICHLER,** Kroger	600	131	731	(21.4)	(3.1)	91	(6.5)	180
188	**LARRY L. PRINCE,** Genuine Parts	667	57	723	18.2	0.5	158	8.6	116
189	**LAURENCE E. HIRSCH,** Centex	693	0	693	7.8	(29.7)	0	26.8	27
190	**JACK TWYMAN,** Super Food Services	681	0	681	(8.0)	(29.0)	268	0.2	155
191	**ROBERT E. MARTINI,** Bergen Brunswig	676	0	676	55.7	(2.9)	0	18.4	54
192	**EDWARD M. CARSON,** First Interstate Bancorp	665	0	665	(26.8)	(161.5)	145	(8.1)	185
193	**FREDERICK W. SMITH,** Federal Express	662	0	662	14.4	(94.9)	0	(0.7)	160
194	**CARL H. LINDNER,** Chiquita Brands International	400	257	657	0	36.8	0	27.5	25
195	**PHILIP H. KNIGHT,** Nike	654	0	654	20.4	18.1	0	64.5	2
196	**DAVID R. BANKS,** Beverly Enterprises	588	0	588	5.1	125.4	286	5.4	133
197	**WILLIAM E. BINDLEY,** Bindley Western	511	0	511	(10.4)	70.5	0	24.1	33
198	**ALFRED T. MCNEILL,** Turner Corp.	365	22	387	(13.5)	N.A.	0	(21.1)	197
199	**HAROLD B. FINCH JR.,** Nash Finch	380	0	380	7.0	6.9	0	(1.8)	162
200	**LEON HESS,** Amerada Hess	300	0	300	0	(82.5)	0	17.5	60

[1]Salary & bonus includes some long-term pay.
Profit declines over 100% reflect swings from 1990 profits to 1991 losses.

is hard to argue with when you look at an average 35% annual total return to investors over the past decade. A couple of new CEOs received huge stock grants and have produced impressive results remarkably fast. Stanley Gault, former CEO of Rubbermaid, took over at Goodyear last June with the stock at 30; recently it was around 73. Lawrence Bossidy worked a similar transformation at Allied-Signal. The stock was at 33 when he quit as General Electric's vice chairman and took Allied's helm last summer; it was lately at 59. Merrill Lynch's stock nearly tripled last year—and profits more than tripled—under William Schreyer, who just retired as CEO.

Look carefully and you'll see that two companies on this list share a single CEO, while two others have a pair each. Carl Lindner heads Penn Central (No. 133) as well as Chiquita Brands (No. 194). (A triple threat, he is also CEO of American Financial, not included here because it is privately held.) Lindner gets his big payoff from large holdings of company stock and is a bargain for the shareholders at Chiquita. He paid himself a modest $657,000 in 1991, when Chiquita's profits grew 37%.

Congress teems with proposals to lower executive pay. This year's numbers should fan the flames.

America's most famous co-CEO is Steven J. Ross of Time Warner (No. 43), who shared the title with N. J. Nicholas Jr. (No. 72) until February, when Nicholas was pushed out and Gerald Levin succeeded him. Ross received just over $4 million in salary and bonus last year, plus a nearly identical amount through an unusual arrangement. When Time bought Ross's former company, Warner, in 1990, it bought out his equity participation plans for $196 million. Ross got a widely publicized $78 million right away, with the rest going into a trust account to be invested and paid to him over eight years. Part of each year's payout represents the original money put into the account, and part represents investment earnings on the account. This second portion is tax deductible for Time Warner as compensation expense. Ross's contract stipulates that an amount equal to the tax benefit be paid to him. (Time Warner is the parent of FORTUNE's publisher.)

The other paired CEOs on the list are the Sandlers, Marion (No. 173) and husband Herbert (No. 172), who have been running Golden West Financial for 28 years. Cohabiting CEOs are rare but perhaps worth more companies' consideration: Golden West has returned an average 33% a year to shareholders for a decade.

Pressed by angry shareholders and politicians, the SEC is thinking of changing reporting requirements for executive pay. The commission may issue new guidelines this summer for presenting compensation data in annual proxy statements, such as requiring companies to compare trends in executive pay with corporate performance. The object is apparently to make fathoming CEO pay easier. "Companies have favorite tricks that make compensation hard to comprehend, like lumping three years of grants together," says Halloran. "New rules from the SEC could put an end to the gimmicks."

The SEC has already started to give shareholders a voice in executive compensation. This year, for the first time, it has required companies to put shareholder proposals on executive pay to a vote. The results are nonbinding but could embarrass many companies. Proposals from small shareholders at four corporations—including IBM and Bell Atlantic—won a respectable percentage of the vote.

Politicians from across the spectrum are seizing on the pay issue. Congress teems with proposals to push down executive pay. This year's numbers should fan the flames. F

INDEX OF COMPANIES

ABBOTT LABORATORIES	59	BURLINGTON NORTHERN	62	FIRST CHICAGO CORP.	98	LOCKHEED	109	REYNOLDS METALS	96
AETNA LIFE & CASUALTY	169	CAMPBELL SOUP	42	FIRST INTERSTATE BANCORP	192	LOEWS	154	ROCKWELL INTERNATIONAL	142
AHMANSON (H.F.)	90	CAPITAL CITIES/ABC	181	FIRST UNION CORP.	148	MARRIOTT	101	RYDER SYSTEM	150
ALCO STANDARD	183	CATERPILLAR	176	FLEET/NORSTAR FINANCIAL	56	MARTIN MARIETTA	89	SARA LEE	134
ALLIED-SIGNAL	4	CBS	107	FLEMING	184	MCDONNELL DOUGLAS	180	SCOTT PAPER	94
ALUMINUM CO. OF AMERICA	159	CENTEX	189	FLUOR	92	MCI COMMUNICATIONS	32	SEARS ROEBUCK	93
AMERADA HESS	200	CHAMPION INTERNATIONAL	44	FORD MOTOR	34	MERCK	13	SOUTHERN	145
AMERICAN BRANDS	24	CHASE MANHATTAN CORP.	48	FOSTER WHEELER	167	MERRILL LYNCH	5	SPRINT	138
AMERICAN CYANAMID	106	CHEMICAL BANKING CORP.	38	GENERAL CINEMA	156	MINNESOTA MINING & MFG.	83	STONE CONTAINER	163
AMERICAN EXPRESS	81	CHEVRON	85	GENERAL DYNAMICS	23	MOBIL	45	SUN	70
AMERICAN HOME PRODUCTS	28	CHIQUITA BRANDS INTL	194	GENERAL ELECTRIC	10	MONSANTO	9	SUPER FOOD SERVICES	190
AMERICAN INTL. GROUP	73	CHRYSLER	76	GENERAL MILLS	15	MORGAN (J.P.) & CO.	37	SUPER VALU STORES	104
AMERICAN STORES	143	CIGNA	171	GENERAL MOTORS	99	MORGAN STANLEY GROUP	21	SYSCO	162
AMERICAN TEL. & TEL.	8	CITICORP	41	GENUINE PARTS	188	MORRISON KNUDSEN	114	TENNECO	125
AMERITECH	157	COASTAL	147	GEORGIA-PACIFIC	47	MOTOROLA	86	TEXACO	58
AMOCO	78	COCA-COLA	1	GILLETTE	27	NASH FINCH	199	TEXAS INSTRUMENTS	139
AMR	103	COLGATE-PALMOLIVE	135	GOLDEN WEST FINANCIAL	172,173	NATIONAL INTERGROUP	112	TEXTRON	52
ANHEUSER-BUSCH	122	COMDISCO	178	GOODYEAR TIRE & RUBBER	3	NATL. MEDICAL ENTERPRISES	66	TIME WARNER	43,72
APPLE COMPUTER	152	CONAGRA	68	GRACE (W.R.)	20	NATIONSBANK CORP.	118	TRAVELERS CORP.	121
ARCHER-DANIELS-MIDLAND	117	CONSOL. FREIGHTWAYS	120	GRAINGER (W.W.)	186	NIKE	195	TRW	55
ASHLAND OIL	140	COOPER INDUSTRIES	165	GREAT WESTERN FINANCIAL	84	NORFOLK SOUTHERN	65	TURNER CORP.	198
ATLANTIC RICHFIELD	57	CPC INTERNATIONAL	136	GTE	19	NORTHROP	158	UAL	6
AUTOMATIC DATA PROC.	33	CSX	54	HALLIBURTON	160	NYNEX	82	UNION CARBIDE	100
AVNET	170	DANA	177	HEINZ (H.J.)	151	OCCIDENTAL PETROLEUM	50	UNION PACIFIC	25
BANC ONE CORP.	77	DAYTON HUDSON	128	HEWLETT-PACKARD	36	PACIFIC ENTERPRISES	185	UNITED TECHNOLOGIES	141
BANKAMERICA CORP.	39	DEERE	155	HONEYWELL	80	PACIFIC GAS & ELECTRIC	127	UNOCAL	144
BANKERS TRUST N.Y. CORP.	35	DELTA AIR LINES	137	HUMANA	126	PACIFIC TELESIS GROUP	166	USAIR GROUP	102
BANK OF NEW YORK CO.	175	DIAL	71	INTEL	129	PARAMOUNT COMM.	79	US WEST	64
BAXTER INTERNATIONAL	87	DIGITAL EQUIPMENT	174	INTELLIGENT ELECTRONICS	168	PENN CENTRAL	133	USX	153
BEAR STEARNS	31	DISNEY (WALT)	30	INTERNATIONAL PAPER	110	PENNEY (J.C.)	69	WAL-MART STORES	116
BELL ATLANTIC	111	DOW CHEMICAL	75	INTL. BUSINESS MACHINES	51	PEPSICO	113	WARNER-LAMBERT	88
BELLSOUTH	119	DRESSER INDUSTRIES	146	ITT	14	PFIZER	91	WASTE MANAGEMENT	60
BERGEN BRUNSWIG	191	DUN & BRADSTREET	67	JOHNSON & JOHNSON	108	PHILIP MORRIS	2	WELLS FARGO & CO.	61
BEVERLY ENTERPRISES	196	DU PONT (E.I.) DE NEMOURS	49	JWP	74	PHILLIPS PETROLEUM	130	WESTINGHOUSE ELECTRIC	26
BINDLEY WESTERN	197	EASTMAN KODAK	132	KELLOGG	18	PPG INDUSTRIES	124	WETTERAU	63
BLACK & DECKER	7	EMERSON ELECTRIC	131	KIMBERLY-CLARK	22	PROCTER & GAMBLE	53	WEYERHAEUSER	164
BOEING	123	ENRON	46	KMART	97	QUAKER OATS	11	WHIRLPOOL	40
BORDEN	95	ENSERCH	179	KROGER	187	RALSTON PURINA	161	XEROX	105
BRISTOL-MYERS SQUIBB	29	EXXON	17	LILLY (ELI)	12	RAYTHEON	16		
BROWNING-FERRIS IND.	182	FEDERAL EXPRESS	193	LITTON INDUSTRIES	149	REEBOK INTERNATIONAL	115		

HOW JAPAN GOT BURNED IN THE U.S.A.

Japanese manufacturers have been dismayed by how much money they are losing in America. Many are cutting back on investment, and some are pulling out. ■ *by Emily Thornton*

REMEMBER JAPAN, the country that could not say no to investing in the United States? You know, the economic giant that bought office buildings, golf courses, and sometimes whole companies at outrageously high prices? Remember it, because those days are over.

Takeovers of American companies have dropped sharply, and Japanese interest in real estate has melted like the Rockefeller Center skating rink in April. During the go-go years after the yen strengthened in 1985, the state of Ohio's Tokyo office was arranging site tours in the U.S. every week and announcing at least one new Japanese investment a month. This year tours have shrunk to one a month at most, and Ohio expects only three new investments for the whole year.

A survey by the New York investment bank Ulmer Bros. shows that mergers and acquisitions in the U.S. involving Japanese companies fell to 122 in 1991, from 194 the previous year, with the dollar value dropping from $11.9 billion to $3.8 billion. Kenneth Leventhal & Co., a Los Angeles accounting firm, expects Japanese real estate investments this year to total $3 billion to $5 billion, down from a high of $16.5 billion in 1988.

Is this just a reaction to recession? Partly. Japanese companies in the U.S. are hurting as much as their American counterparts. At home, where the financial and real estate markets are still in shambles, Japan's industrial giants are finding it hard to raise cash while facing their worst losses ever.

But there's more to it. Many Japanese companies no longer regard the U.S. as a land of opportunity. Entering the vast American market is easy, managers say, but costs are high; you're liable to be sued by somebody eventually or to be singled out and embarrassed in the U.S.-Japan cross fire. Behind these new attitudes is the growing Japanese backlash against the Japan bashing that has grown so virulent in the U.S.

Japanese investment won't stop altogether. But the nature of it will surely change. Here are trends to look for:

■ LESS MANUFACTURING, MORE R&D DEALS. Japanese companies used to say that they would export to the rest of the world from their American transplants.

Daihatsu is leaving Raleigh, North Carolina—and the U.S. Europe and Asia are more profitable.

PHOTOGRAPHS BY WILL MCINTYRE

Now those plans have been quietly shelved. Costs are lower and growth rates higher in Southeast Asia and Mexico. Without export potential, these companies say, they have overinvested because they are producing more in the U.S. than the American market can absorb.

New Japanese investment will be in R&D-related business alliances with American companies through which Japan can acquire technology (see table). This may benefit high-tech startups looking for venture capital, but it won't bring many jobs for ordinary workers. And it will further rattle those Americans who think the Japanese are already grabbing too much U.S. technology.

■ **LAYOFFS.** Job security was one thing Japanese transplants implicitly offered U.S. workers. That will vanish as more U.S. operations go into the red. Many companies are trading workers for robots.

■ **DEPARTURES.** Hitachi is moving VCR and TV manufacture from California to Mexico. In March, Mitsubishi Materials canceled plans to build a copper smelter in Texas after five years of delays. The company had spent $11 million, half on legal and consulting fees. Toshiba has shifted microwave production back to Japan.

Though Daihatsu Motor did not manufacture cars in the U.S., it had built a network of 250 dealers. This spring the company said it would discontinue production in Japan of the two car models it has been selling in the U.S. since 1987. Industry analysts suspect automaker Isuzu may stop selling in the U.S. too.

RECENT LOSSES have apparently stunned even those Japanese managers who traditionally have been willing to forgo profits now in hopes of building U.S. market share for the long run. "It's not that we don't think long term anymore," says Yukitoshi Ono, a general manager at Daihatsu Motor. "It's just that we don't see ourselves making a profit even in the long term."

Japanese manufacturing operations in the U.S. had losses totaling $751 million in fiscal 1990, the most recent year for which figures are available. Bridgestone has lost $850 million since acquiring Firestone Tire & Rubber in 1988.

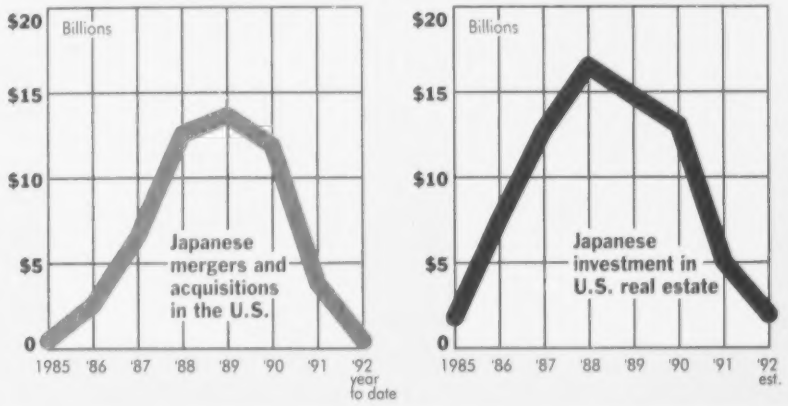
Part of the problem is simple economics. It's tougher to make it in the U.S. today because the competition is fiercer. Seven Japanese automakers have set up American production facilities. They sell 70 models in the U.S. The Japanese produce 1.5 million cars and trucks a year in the U.S. and bring in another 1.76 million from Japan. Nissan, a powerhouse in Japan that manufactures in Tennessee, is especially troubled (see Corporate Performance).

Yukio Suzuki, a senior analyst at Nomura Research Institute, predicts that the situation will worsen by the end of the 1990s. By then, he says, the American market will be able to sustain only three Japanese transplants. Says he: "A general withdrawal will not occur this year or next. Many companies will wait for an improvement in the U.S. economy. But if they continue having losses, they will figure that the problem is not the economy but their own management. They will leave and never return."

Nor is the picture very bright for Japanese parts makers. Says Sukehiro Itoh, senior economist at the Industrial Bank of Japan: "Three hundred auto suppliers rushed to the U.S. to set up local production facilities. About 60% are now in the red."

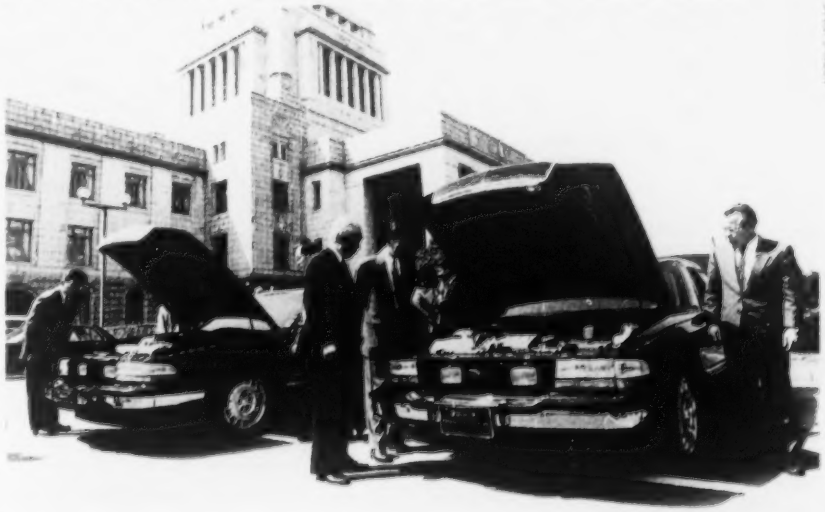
Some companies have found business in America too tough for other reasons. Says Hiroshi Nakamura, the Mitsubishi Materials executive who was trying to build a cop-

TAKEOVERS HAVE PEAKED ... AS HAVE PROPERTY DEALS



FORTUNE CHARTS / SOURCES: ULMER BROTHERS, KI & CO.

To mollify American critics, the Japanese government bought two Buicks, here on display in front of Parliament. But Japanese executives who run U.S. operations think antagonism is increasing.



JAKARTA HANDRI

per smelter in Texas: "It is difficult to construct a plant when environmental regulations become stricter every year. We had hoped to transfer our technology to the U.S. Now we are planning just to use the technology in a joint venture in Thailand."

Besides economics, much of the new sour mood among executives in Japan stems from what they see as increasingly anti-Japanese attitudes in the U.S. The Japanese are less angry than disillusioned. Nobody is banging away at Lincolns in Tokyo (as a Pennsylvania car dealer did to an old Honda Civic). Some Japanese executives, like Koichi Danno, vice president of Mitsubishi Heavy Industries, even empathize. Says he: "I am not in a position to give any advice to the U.S. government. But if I were an American citizen I would tell my government to stop temporarily importing some specific Japanese products for a certain period of time while strengthening the U.S. industries concerned."

Most, however, have become uneasy about the U.S. Says Shigeo Muraoka, managing director of Fujitsu Ltd.: "Until a few years ago most of the people who criticized Japan were in Washington, D.C., but if you went to various states you didn't find that sentiment among the governors or people working at our factories." He hasn't been to the U.S. lately, so he really doesn't know whether that situation has changed. But he *thinks* it has, and that's the point.

Adds Keiya Toyonaga, the head of international affairs at Matsushita Electric: "In the case of Germany or Soviet Russia, the Americans were against Nazism or communism, but they never criticized the people of those countries. After reading *The Rising Sun* (a new novel by Michael Crichton), I sensed a disgust with the Japanese people themselves. I have never felt so disturbed in all my life. And it's an American best-seller!"

Akiya Imura, CEO of Matsushita Electric Corp. of America, has been living happily in New Jersey for six years. He says he hates to criticize the U.S., then adds that he "can't help feeling" that "unfair attention" is paid to cases of racial or sexual discrimination at Japanese companies. Says he: "American companies have similar problems, but only when we have them do they come to the surface." That may be overstated, but again it's the perception.

Ever since Los Angeles County canceled its $122 million contract with Sumitomo Corp., more Japanese executives are calling the U.S. "unfair." Recent patent disputes have fueled the resentment. Says Chairman Ryuzaburo Kaku of Canon Inc., which Loral Fairchild is suing for patent infringement: "The U.S. patent system is being used like the Buy American movement."

IN ITS ANNUAL REPORT this year, the Ministry of International Trade and Industry (MITI) for the first time called the U.S. protectionist. MITI accused Washington of regularly departing from the General Agreement on Tariffs and Trade (GATT) by introducing voluntary import restraints and threatening unilateral action against Japan.

Industry organizations are joining the fray. The Japanese Automobile Manufacturers Association posed this question in a recent magazine: "Does a car need to be identified with the national flag of its maker? Yes, say some political forces around the world. They are trying to put Japanese flags on cars produced in the U.S. by American workers, or cars produced in Europe by European workers, only to discriminate against them. Is it fair?"

Will the U.S. economy suffer as a result of Japanese disengagement? Though some economists worry that it will, such fears are exaggerated. At the height of the boom, many Japanese investors paid too much for assets. That was good for sellers, but it distorted true values and heightened the excesses that led to the office building bust.

Americans shouldn't take too much comfort, however, from the fact that some Japanese companies can't make it in Peoria. In many cases, closing American operations or moving them to Mexico or Malaysia will make Japanese companies more competitive. Now that's something to worry about.

REPORTER ASSOCIATES *Thomas J. Martin, Suneel Ratan, and Cindy Kano*

JAPAN'S TOP HIGH-TECH INVESTMENTS

U.S. COMPANY	STATE	JAPANESE BUYER	INDUSTRY	YEAR	TYPE	PRICE in millions
Gould	Ill.	Nippon Mining	Semiconductor equipment	1988	Acquisition	$1,100
AVX	N.Y.	Kyocera	Advanced materials	1990	Acquisition	$575
Natl. Advanced Systems	Calif.	Hitachi	Computers	1989	Acquisition	$398
Shaklee	Calif.	Yamanouchi Pharmaceuticals	Biotechnology	1989	Acquisition	$395
Verbatim	Calif.	Mitsubishi Kasei	Computers	1990	Acquisition	$250
Electronic Metallurgy	Pa.	Kobe Steel	Electronics	1989	Acquisition of division	$250
Elco (div. of Wickes)	Calif./ Pa.	Kyocera	Electronics	1989	Acquisition of division	$250
UCAR Carbon	Conn.	Mitsubishi	Advanced materials	1990	50% investment	$233
Oracle Systems	Calif.	Nippon Steel	Computers	1991	9.8% investment	$200
Discovision	Calif.	Pioneer Electronics	Electronics	1989	Acquisition	$200
Silicon Systems	Calif.	TDK	Semiconductors	1989	Acquisition	$200
Wiltron	Calif.	Asahi	Telecomm.	1990	Acquisition	$180
Unisys	Pa.	Mitsui	Computers	1990	5% investment	$150
Chase Aircraft	Fla.	CIT Group	Aerospace	1991	Acquisition	$130
Gen-Probe	Calif.	Chugai Pharmaceuticals	Biotechnology	1989	Acquisition	$110
ICI	Pa.	Kawasaki Steel	Advanced materials	1991	Acquisition of division	$100
Next	Calif.	Canon	Computers	1989	16.6% investment	$100
Roberts Pharmaceuticals	N.J.	Yamanouchi Pharmaceuticals	Biotechnology	1992	29% investment	$95
Tri Gas	Texas	Nippon Sanso	Semiconductor equipment	1992	Acquisition	$88
NL Spencer Kellogg	Texas	Dainippon Ink & Chemical	Advanced materials	1989	Acquisition of division	$86

The Japanese are investing less in U.S. manufacturing and more in deals that give them technology.

SOURCE: THE TOKYO STOCK EXCHANGE, ECONOMIC STRATEGY INSTITUTE

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THE RICHEST 1%

Who they are, how they made it— and are they running away from the pack?

New millionaires Lynne and Bill Byrne

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JUNE 29, 1992 VOL. 125, NO. 13

FORTUNE

"I've learned more from my mistakes than my successes. If one thing doesn't work out, try something else." 42

THE SOCIETY/COVER STORIES

ABOVE: Self-made millionaire Bill Byrne, in a Jacuzzi with wife Lynne, has come a long way from the Iowa hog farm where he grew up. Photo by David Strick (Onyx).

COVER: Strick also took this photograph of the Byrnes at their home in the Colorado Rockies.

THE NEW DEBATE OVER THE VERY RICH 42

In a country that reveres material success, there is apparently now such a thing as being *too* successful. The top 1% of earners did do better than everyone else in the 1980s, but much of the fire they're drawing is off target. Here's how they made it big—and why new taxes aren't the answer. *by Anne B. Fisher*

SELLING ADVICE TO THE SUPER-RICH 56

The business of managing their money is booming, full of lofty fees and long-term customers. No high-anxiety gambles here. The wealthy are less interested in making money than in preserving it. *by William E. Sheeline*

POLITICS & POLICY

WILL GEORGE BUSH REALLY CHANGE? 62

Dissatisfied Americans want leadership. The President is promising bucketfuls, if he gets a second term. But skeptics, including some Republicans, say don't bet on it. *by Ann Reilly Dowd*

TECHNOLOGY

CD-ROM: THE NEXT PC REVOLUTION 68

CD-ROMs—compact disks for personal computers—are finally coming on strong. They look just like a conventional CD, yet offer words and pictures (including moving images) as well as sound. You can use them to choose a hotel, track down a patent, or teach your kids to read. *by Mark Alpert*

MANAGING

A TOUGH SWEDE INVADES THE U.S. 76

Percy Barnevik runs ABB, a Swiss-based electrical equipment giant that is the leanest, meanest multinational around. Bigger than Westinghouse, it's taking on GE. *by Carla Rapoport*

WHAT TO DO ABOUT WORKERS' COMP 80

The costs are killing business. Managers can save plenty by focusing on safety and showing concern for injured employees. How about a call to that laid-up worker? *by Mark D. Fefer*

CORPORATE PERFORMANCE

PIETY, PROFITS, AND PRODUCTIVITY 84

ServiceMaster finds its lucrative calling in doing dirty jobs fast and cheap. *by Ronald Henkoff*

"My doorman would say, 'Yeah, I'm up 50% in my biotech fund.' And I'm thinking, 'Jeez, we're up only 8%.' " 56

"Bush will be a lame duck from day one. Very little will get done at home. It will be afternoon in America." 62

"You should have a minimum of staff to disturb the operating people and prevent them from doing their jobs." 76

"I feel like I'm in a tub of water and the plug has been pulled. I don't know if I'm going into the sewer or I'll be recycled." 88

"You don't have to have a small ego to work here, but you'd better know how to make it look small." 98

"Working with a husband just doesn't work. I find it more pleasant to be alone." 109

CORPORATE PERFORMANCE

WHEN MERGERS MAKE SENSE 85
Underachievers Manny Hanny and Chemical prove a model consolidation. *by Joshua Mendes*

STUCK IN A RUT? TRY THINKING BIG 86
Enron's visionary CEO has his gas pipeline company on the road to the majors. *by Peter Nulty*

COMPANIES TO WATCH 87
Another muffler chain revs up to replace vanishing full-service gas stations. *by Andrew Serwer*

THE ECONOMY

COPING WITH THE DEFENSE BUILD-DOWN 88
Military cutbacks from master sergeants to nuclear subs pose economic and security risks. So far Washington isn't doing a bad job. But it needs to do better. Here's how. *by Lee Smith*

TRADE

U.S. EXPORTERS ON A GLOBAL ROLL 94
Our annual ranking of the biggest exporters shows how strong sales abroad help companies offset weakness at home. *by Therese Eiben*

INNOVATION

PRODUCTS TO WATCH 97

FORTUNE BOOK EXCERPT

SAM WALTON IN HIS OWN WORDS 98
Behind his exterior as folksy, homespun merchant, America's modern retailing genius was a keen student of management theory. His favorite rule: Break all the rules.

DEPARTMENTS

EDITOR'S DESK 4
How FORTUNE senior editor John Huey got the inside story on Wal-Mart founder Sam Walton.

INDEX 8

NEWS/TRENDS 12
Mercedes skids in the quality race, Ross Perot's campaign chest, what the amazing Japanese are up to now, Murphy Brown's Quayle revenge, what CEOs are reading, workers "screwed" in ESOP, chastity as a job prerequisite, and more.

ECONOMIC INTELLIGENCE 25
A band of optimistic iconoclasts makes a case for a stronger U.S. recovery—maybe even *this* year; countertrade heats up as American companies seek business in the developing world; and economist Alice Rivlin of the Brookings Institution explains her plan to make government work better.

PERSONAL INVESTING 29
Guess what? When profits rise, that can be bad news for stocks. It now may be time to move cautiously. *by Terence P. Paré*

Also: A gusher in the oil fields, why European stocks could be the stars of 1992, and Portfolio Talk with Gordon Fines, manager of the IDS New Dimensions Fund.

FORTUNE PEOPLE 109
An AT&T executive exorcises demons, Yeltsin's deputy prime minister wins boos and bravos, and more. *by Laurie Kretchmar*

KEEPING UP 111
Talking back to trees, making crime pay, great moments in welfare, diabolical discounts, and other matters. *by Daniel Seligman*

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EDITOR'S DESK

A RARE LOOK AT SAM WALTON

LET ME tell you about a riveting new book—*Sam Walton: Made in America* (Doubleday, $22.50). It's the story, in his own words, of a modest man who built a multibillion-dollar retailing empire, Wal-Mart Stores, on what we nostalgically call homespun values—honesty, fairness, commitment to quality. The moral is one I wish we could write about more often: You best enrich yourself by enriching others.

Sam Walton with FORTUNE's John Huey on the road last June.

Walton never talked much to the press until FORTUNE senior editor John Huey knocked on his door and became the only journalist ever to interview him for a major national magazine. Walton not only talked with him for a cover story that ran in 1989, but also invited him into the company's secret strategy meetings—another first for a journalist. More than Huey's persistence won Walton's trust. "I speak fluent bird dog-ese," says Huey, an Atlantan whose father, like Walton, was an avid hunter. "Bird dogs and hunting were one of Sam's few obsessions outside of Wal-Mart."

Huey became *the* expert on Wal-Mart's magic. His most recent cover story, "How Sam Walton Does It" (September 23, 1991), led to a handshake agreement to help Walton write his autobiography. By then Walton knew he was dying of cancer, so time was crucial. In February, Huey moved to Arkansas to spend more time with the ailing sage, working with him virtually until he died on April 6 at 74.

In more than two decades as a journalist, Huey has found no one so compelling—or inspirational—as Walton: "Sam was a wonderful mix of simple and complicated. He was folksy but shrewd, compassionate but Darwinian, warm but tough as an old boot."

Walton's generous spirit survives. He donated his share of the record $4 million book advance and future royalties to the New American Schools Development Corp. This nonprofit organization aims to pursue "break the mold" ideas to improve education—a subject close to FORTUNE's own heart.

Sam Walton: Made in America is in the proud tradition of collaborations between business leaders and FORTUNE, books like Alfred P. Sloan Jr.'s classic 1964 memoir, *My Years at General Motors* (with FORTUNE editor John McDonald), and Thomas Watson Jr.'s 1990 account of his life at IBM, *Father, Son, and Company* (with FORTUNE editor Peter Petre). And it shows all the signs of being a blockbuster. Excerpts begin on page 98.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly with three issues in October by Time Inc. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Louis D. Boccardi, Executive Vice President; M. Johnston, Secretary. Subscription price $25 (introductory one year rate). Canada one year $27 (includes GST); $52.95 (includes GST); one year $77 (includes GST); $53.73. Second-class postage paid at New York, NY and at additional mailing offices. Authorized as second-class mail for Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member Audit Bureau of Circulations. POSTMASTER: send address changes to FORTUNE, P.O. Box 60001, Tampa, FL 33660-0001. Phone: (800) 621-8000. GST #R122781974. Customer inquiries: FORTUNE, P.O. Box 60001, Tampa, FL 33660-0001. Phone: (800) 621-8000. © 1992 Time Inc. All rights reserved

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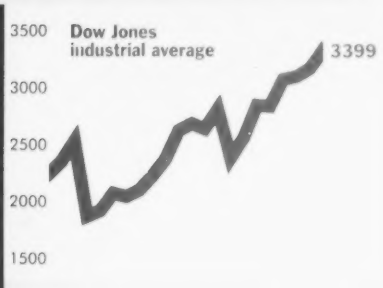
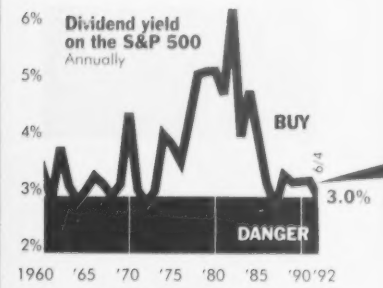
STATE OF THE MARKETS

STOCKS





Stocks hit the danger zone

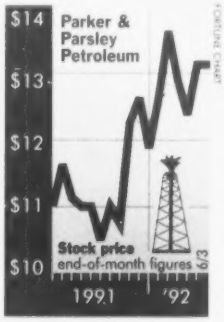
BONDS

FORTUNE CHARTS. CHARTS SHOW END-OF-QUARTER FIGURES
*BASED ON EARNINGS FOR THE LATEST FOUR QUARTERS
SOURCES: STANDARD & POOR'S; BOND BUYER; IBC/DONOGHUE'S MONEY FUND REPORT

say the strategists. As treacherous as the market's course might be, there is plenty of underlying economic strength to keep any market correction manageable. One positive indicator is the relationship of the S&P 500 market capitalization to the U.S. gross national product. According to statistics compiled by the Leuthold Group, a research firm in Minneapolis, the S&P 500 market cap equaled 72% of GNP in the first quarter of 1992, well below the median value of 89% for the period 1926 to 1992. In 1929, by contrast, the S&P 500 equaled *three times* GNP. In the view of Byron Wien, strategist at Morgan Stanley, "The market doesn't have to come down hard. It will just be a struggle to go higher." Such is the tone of today's optimism.

A GUSHER IN THE OIL FIELDS

■ Look, Ma, there's an accountant in a cowboy hat out yonder by that oil rig, and darned if he don't look satisfied. Yessir, he must have discovered **Parker & Parsley Petroleum**, an independent oil and gas exploration and development company out of Midland, Texas. Equal parts petroleum engineers and financiers, the management at Parker & Parsley believes in punching holes in the ground, not in the balance sheet. But no wildcatters these: With low debt, lots of proven wells, and a knack for making money, the company is considered a conservative energy play that's a shoo-in to shoot up.



One strategy for success at Parker & Parsley, a former limited partnership that converted to corporate status in February 1991, has been to grow by acquisition. Geologically speaking, many oil fields in the U.S. are mature. Giants like Mobil can't make enough to justify expenses, so they sell these wells off. In this depressed oil market, Parker & Parsley can pick them up on the cheap.

But the company doesn't just save money on its purchases. It spends 30% less than its peers when it drills wells, notes Paine Webber analyst Mark Kellstrom. Because 75% of the company's production is concentrated in the Permian basin of West Texas, Parker & Parsley can negotiate volume discounts with contractors and suppliers of cement, pipes, and the like. It plans to exploit that advantage further, adding as many as 250 wells per year to its 4,300 total over the next three years, which would increase production by 15% to 20% per year.

Parker & Parsley's goal, says vice chairman Herbert Williamson, is to expand its $600 million in reserves to $1 billion by 1995. The company has the money to make it happen. Unlike most of its peers, it has earnings—$15 million last year on $147 million in revenues. Reflecting the vagaries of the oil price, as well as some accounting charges due to acquisitions, analysts are looking for earnings per share of 75 cents this year—down slightly from 1991—and $1.05 next year. But the real story, analysts say, is the company's cash flow, which should match production increases of 15% to 20% per year, as much as twice their peer group mean.

The stock, recently $13 a share, should do at least as well. Unknown to most investors—institutions own less than 30%—the shares sell at an 18% discount to asset value, vs. a group average discount of 10%. Says Hugh Denison, portfolio manager of the Heartland Value Fund: "A company like this should be 50% to 60% owned by institutions. Recognition and cash flow will drive the stock." Denison bases his projections on an oil price at or below the current rate of $21 a barrel. A wild card for investors: Every dollar increase in the price per barrel adds 18 cents a share to earnings. – **Susan E. Kuhn**

EUROPEAN STOCKS COULD BE THE STARS OF 1992

■ Looking to buy the stocks of great companies at a discount? Try a Eurobargain. While many European exchanges have already chalked up big gains this year, most trade at nearly half the price/earnings multiple of Standard & Poor's 500-stock index. Says Norman Kurland, who manages the $650 million international part of the Pioneer II fund: "There's easily a 20% gain left in Europe over the next year. I just don't see

FOUR BOURSES THAT COULD BOOM

	ECONOMIC GROWTH[1]		STOCK MARKET		
	1991	1992 FORECAST	Price-to-earnings multiple[2]	Price-to-cash flow multiple[2]	Year-to-date market change[3]
Germany	3.2%	1.8%	16.9	5.0	12.2%
France	1.4%	2.1%	16.0	6.6	16.7%
Netherlands	2.2%	1.8%	13.9	6.1	12.1%
Spain	2.5%	2.9%	10.5	5.1	8.3%

[1] All numbers are OECD forecasts for GDP growth with the exception of Germany, which is GNP. [2] Based on trailing four quarters. [3] In local currency.

SOURCES: OECD, MORGAN STANLEY CAPITAL INTERNATIONAL

JIM MCMANUS FOR FORTUNE

that in the U.S." Kurland has an eye for winning markets: His portfolio of non-U.S. stocks returned 22% last year, vs. a 12.4% average for international mutual funds tracked by Lipper Analytical.

The extra oomph for Europe's bourses will come partly from the prospect of improved corporate profits as the Continent's economies begin to climb out of recession. But the bigger boost, analysts say, will come from declining interest rates. While inflation in most European countries is down to around 4%, short-term rates still hover near 10%, resulting in record-high real interest rates. Central bankers at most European countries are ready to trim rates now but, mindful of their currencies, are waiting for Germany's powerful Bundesbank to act first.

Economist David Roche, global strategist at Morgan Stanley in London, thinks the Bundesbank will cut rates soon, perhaps by the end of summer, because Germany's economy, previously among the strongest in Europe, has been slowing sharply. That act may even be speeded by the Danish vote in June not to ratify the treaty on European economic integration. Roche believes the vote will strengthen the deutsche mark as traders flock to the strongest currency, so German authorities will be under pressure to counter with lower interest rates.

Beyond that ripple, the Danish vote should have no significant effect on the outlook for European stocks, analysts say. The nations of Europe have been headed toward a convergence of monetary policy for some time and will continue on that path because it is in their interest to pursue a unified anti-inflation course. Says Bert Jansen, European equity strategist at Paribas Capital Markets Group in London: "Nothing fundamental has changed."

So where will the bull run with the most panache? Many portfolio managers are placing their bets on France. The economy is improving, inflation remains low, and the bourse is beginning to bounce. Says Kurland: "France is the classic case of an interest-sensitive stock market because of all the short-term money on the sidelines." Some 1.3 trillion French francs ($240 billion) sit in short-term accounts earning close to 10%; when interest rates start to drop, Kurland thinks, much of this will seep into the equity market, much like the CD money that flooded U.S. stocks as America's interest rates fell.

The easiest way to take a broad swipe at France is by buying shares of the **France Growth Fund**, a closed-end fund that trades on the Big Board at a 16% discount to net asset value. Kurland is buying stocks that will benefit from a Franco-recovery, such as **Michelin**, the tiremaker, which recently went through a brutal restructuring, and **Générale des Eaux**, a conglomerate that includes a water utility, a construction company, and an environmental cleanup business. To buy these stocks, American investors will pay more in commissions than for U.S. stocks, but the values overseas can make that worthwhile.

The Dutch market, says Bert Jansen at Paribas, is also set for a re-rating. Among the least expensive in Europe, it trades for 11 to 12 times next year's earnings estimates, vs. P/Es of 14 to 16 elsewhere in Europe. "There's no reason the market shouldn't trade more in line with the rest of Europe," Jansen says.

Real bottom fishers may want to stake out Spain. Inflationary pressures have kept interest rates high and the market's valuation lower than all others in Europe. But rates there should follow Germany's down too. Closed-end investors can buy the **Growth Fund of Spain**, which sells at 15% below its net asset value.

Some analysts think the biggest gains will be found back in Frankfurt, where companies have strong international footing. Says Steven Nagourney, international strategist at Lehman Brothers: "Germany is early in the cycle of a big bull market." He says investment in the East should start to pay off for corporate Germany by early next year as that part of the country starts to grow. Meanwhile, Germany's well-tuned export machine will benefit from the pickup in world demand for capital goods. He's buying heavyweights such as **Mannessman**, **Seimens**, **Daimler-Benz**, and **Volkswagen**, all of which are available through ADRs. He also recommends the **Future Germany Fund**, which trades at a 15% discount to its net asset value. – **Shelley Neumeier**

Michelin's earnings could grow 50% in 1993, thanks to a recent restructuring.

THE NEW DEBATE OVER THE VERY RICH

The top 1% of earners did better than everyone else in the 1980s, but much of the fire they draw is off target. Here's how they got it—and why new taxes aren't the answer. ■ *by Anne B. Fisher*

1% BILL BYRNE'S life story is an American classic—humble farm boy makes good by working his tail off. He grew up on a 240-acre hog farm in Pocahontas County, Iowa, the oldest of six, and put in such arduous hours on chores that going off to college was, he recalls, "like a vacation." At 25, Byrne joined Dain Bosworth, the regional investment house, and by 29 was the youngest branch manager of any NYSE-listed firm. He was also well on his way to a fortune, investing heavily in a chain of Mexican fast-food restaurants in Des Moines in the mid-1970s, a time when most Midwesterners couldn't tell a taco from an enchilada.

Today, at 48, Byrne runs a multimillion-dollar mini-empire with 200 employees. It includes 13 Taco John's restaurants in Iowa, a thriving regional magazine on agribusiness, and a successful practice in human-resource consulting. Despite an annual income of more than $500,000 a year, Byrne still works hard, but he and wife Lynne have more time to enjoy the little extras money can buy—such as a second home in the Colorado Rockies. "In my professional life I had some failures over the years," he says. "But I think I've learned more from my mistakes than my successes. You just pick up and go on. If one thing doesn't work out, try something else. Never give up."

With his compulsion to improve himself—he spends about 15 hours a week reading books of the how-to-be-a-super-manager variety, and recently wrote one of his own—Byrne is a likable exemplar of a group that has lately been much maligned and politically embattled: the top 1% of income earners in the U.S. These people, whose pretax incomes for a family of four started at roughly $350,000 in 1991 and went up (and

Kicking back in Dillon, Colorado: Bill and Lynne Byrne worked hard to reach the mountaintop.

PHOTOGRAPHS BY DAVID STRICK—ONYX

up and up), are the folks who walked off with most of the income gains of the Roaring Eighties. Census Bureau and IRS data analyzed by the Congressional Budget Office show that from 1977 through 1989 the annual take-home pay of the average American family edged up 9%, but for the lucky 1% of the population it more than doubled, to an average of $410,000.

These statistics—released in an election year—have sparked a vigorous round of rich-bashing, particularly by Democrats. Bill Clinton peppers his campaign speeches with attacks on income inequality that draw heavily on research by Paul Krugman, an MIT economist. Krugman claims that the gap between the richest Americans and the rest of the populace has become more vast—and, by implication, less fair—than at any time since the Great Depression. Such talk has Bush Administration officials scurrying to defend the Republican record with statistics of their own. The sudden outbreak of populism has even inspired billionaire Ross Perot, of all people, to campaign as a champion of the middle class.

WHILE CONGRESS mulls over new legislation, including a proposed 10% surtax on anyone with taxable income of more than $1 million a year, the fortunate few who fared most handsomely in the past decade might be excused some puzzlement. In a country that reveres material success, there is apparently now such a thing as being *too* successful.

The political fracas over income inequality tends to oversimplify what is, in truth, exceedingly complex. The available statistics are slippery and full of holes. The CBO's report to the House Ways and Means Committee last December, which started the whole furor, shows that the top 1% of earners have definitely been pulling away from the pack. They hauled in 70% of the total $250 billion net increase in household incomes between 1977 and 1989. That 70% shocker is the most quoted figure around.

But the CBO has since emphasized that to measure the income gains of the top 1% properly, you ought to adjust them for family size. As any parent knows, kids eat up a lot more than pizza money, and contrary to popular wisdom, high-income couples now have slightly more dependent children than they used to, while less well-off Americans have slightly fewer. Take that into account, and the share of income gains collared by the very rich drops to 44%.

The CBO also notes that there's a good argument for subtracting capital gains from incomes, since in many cases these reflect one-time windfalls, such as when a retiring couple sell their $500,000 house in Connecticut and move to Florida. Do that, and the infamous 70% dwindles to 33%. In short, the richest 1% gained a lot during the roaring Eighties but far less than commonly thought.

This titanic political battle is being waged over data drawn from 60,000 of the 100 million U.S. households. While that sounds small, it's a very respectable sample as these things go. Still, the data need to be handled with care. In 1989 the CBO projected income growth for 1990. It subsequently discovered capital gains income had been overestimated by $130 billion. Such whopping uncertainties suggest it would be wise to turn down the heat a bit in this debate.

Blurring the statistical picture still more are data such as those the Federal Reserve recently published showing that the wealthiest 1% of U.S. families claimed 36% of household net worth in 1989, up from 31% in 1983, while everybody else's share fell slightly. Because both the CBO and the Fed studies refer to the "top 1%," a casual reader might well infer that the same crowd is perched in both groups. It ain't necessarily so. There is, of course, a difference between annual income and net worth.

Focus 21 co-founder Elizabeth Clemmer spends lots of time on her 60-foot yacht *Tango Amour*.

"Just looking at reported income figures is a very poor indicator of who is really rich and who is not," notes John DeMarco, senior vice president of PSI, a financial services research firm in Tampa that scrutinizes the affluent. Here's one notable example: George Bush earns a salary of $200,000, and even his additional

REPORTER ASSOCIATE *Tricia Welsh*

Steve and Rick Cesari, with wives Indy (far right) and Kristen, squeezed a fortune from juice machines.

investment income of $208,274 a year in 1989 didn't bring him up to the average annual pretax pay of the top 1% then—$560,000. Yet with a reported net worth of about $4 million, he's wealthier than many people who in a given year may have reported twice his income to the IRS. (For more on those with the highest net worth, see the following story.)

How many of the top 1%, measured by income, boast the wealth of the Bushes, the Kennedys, the Rockefellers, and the Perots? How many are self-made newcomers and how many got their money the old-fashioned way—by inheriting it?

The political relevance of these questions is obvious. If the families in the lucky 1% in 1992 are a much different crew than their counterparts in 1977, then banging the class warfare drum over their success will ring hollow to many Americans. While no one knows the answers with any precision, most experts agree—and many of the data suggest—that the income figures mask an extraordinary amount of dynamism.

WHO ARE THE LUCKY 1%?

	1981	1991
BY OCCUPATION		
Corporate executives	44%	31%
Business owners	24%	18%
Attorneys	19%	13%
Doctors and dentists	10%	15%
Others (such as sports stars, actors, consultants)	3%	23%
OTHER CHARACTERISTICS		
Married couples	95%	84%
With dependent children	50%	49%
College graduates	88%	89%
Retired	11%	15%
Average age	53	51

THOMAS J. STANLEY, an Atlanta consultant who has been analyzing the wealthy for 22 years, figures that about 80% of high-income Americans are first-generation, self-made successes who tend to spend what they make rather than pile up a true fortune. A new study by the Treasury Department's Office of Tax Analysis also concludes that income mobility in the U.S. is high. Treasury examined 14,351 taxpayers who filed returns in every year from 1979 to 1988. Among the top 1% in 1988, only 32% had started the decade very rich and stayed that way. The majority were newcomers. Of them, however, just 2% began the 1980s all the way down in the bottom fifth and clambered all the way up to the top.

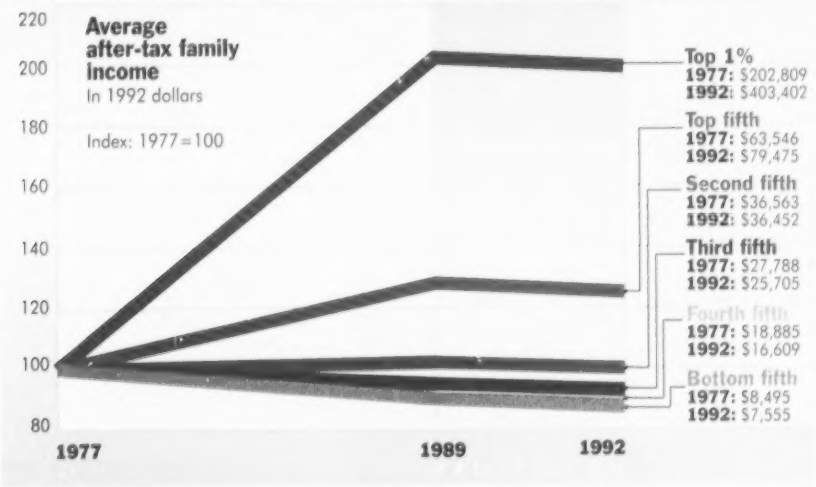
Other studies confirm some of Treasury's findings. Professors Greg J. Duncan and Willard Rogers of the University of Michigan and Syracuse University's Timothy M. Smeeding examined income data for 5,000 families over 23 years. Their conclusion: While it became somewhat harder during the 1980s for children of poor parents to climb the income ladder, it was easier during that superheated decade than in the 1970s for those in the middle to rise to the top.

But what explains the outsize income gains of the very rich in the 1980s? Two things: soaring real estate prices and a sizzling stock market. The Dow Jones average more than tripled between 1980 and 1989, despite the crash of 1987. That compares with a mere 4% increase during the 1970s. This was an era in which, more than ever, having some money enabled you to make even more.

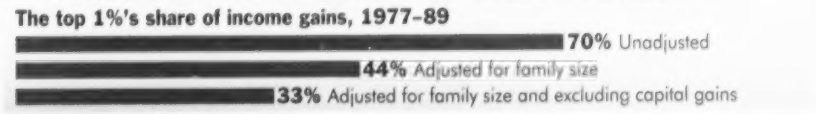
Changes in tax policy also helped. The top tax rate fell from 70% in 1980 to 28% during the decade, allowing the super-rich to keep more of their rising incomes. Even so, big earners paid a heap of taxes. The CBO reports that the top 1% in 1989 paid 24.6% of all U.S. personal income taxes, up from 18.3% in 1980. By contrast, the bottom 40% of households paid just 2.1% of all 1989 income taxes, down from 3.6% in 1980.

A recent cut at the data by Treasury's Of-

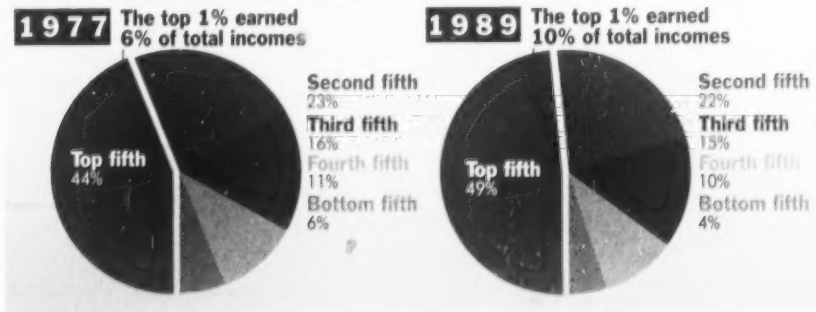
THE VERY RICH SCORED HUGE GAINS IN THE 1980s ...



... THOUGH LESS THAN THE RAW DATA SUGGEST



STILL, THEY WERE THE ONLY GROUP WHOSE SHARE OF INCOMES SOARED



fice of Tax Analysis makes this point more dramatically. Adjusting for inflation, all American households combined paid $51.8 billion more in federal income taxes in 1989 than they did in 1981. But the top 1% of wage earners alone accounted for $45 billion of that increase.

Besides benefiting from lower tax rates and a surging market, the very rich saw their salaries explode in the 1980s. Why? Partial answers can be found by asking another pertinent question that studies of top wage earners rarely pose: Who are the lucky 1%?

They number about one million households, or fewer people than live in Chicago. Most are highly educated—a big advantage in today's economy, in which knowledge is power. According to survey data gathered by research firm PSI, 89% are college graduates. During the 1980s, the super-rich got slightly younger, as some baby-boomers marched into the upper echelons. Their average age dropped from 53 to 51. A big majority of top one-percenters are married (84%), and about half still have kids at home.

Many of the very wealthy confirm the adage that the way to get rich in America is to work for yourself. While the major exceptions—CEOs and senior corporate managers—are the largest single group, their representation among the very rich fell from 44% in 1981 to 31% in 1991 (see table). Still, this smaller group is even better compensated in real terms than they used to be. Raises in salary accounted for only about one-third of top managers' new booty. Credit the rest to the rampaging Dow and the newfound popularity of stock options. In 1985 the typical CEO of a medium-size American industrial company—one with annual sales of between $500 million and $1 billion—got long-term incentives, mainly options, worth about $58,000. Last year the figure was over $527,000 (see FORTUNE, April 6, 1992). By now CEO pay has stirred up so much popular ill will that if boards of directors don't put their collective foot down, Congress might.

THE NEXT-LARGEST component of the top 1% is what PSI labels "others," including entertainers, athletes, and sundry professionals, such as accountants, management consultants, and investment bankers. In 1981 "others" made up a tiny fraction of the top-paid Americans. By 1991 they accounted for nearly one-quarter of the top 1%. In most cases pure market forces—measured by record and movie ticket sales, demand for a hot new business book, or corporate eagerness to pay huge fees for, say, some dynamite new strategic insight or maybe even an entire company—propelled these folks to the top of the income charts.

By 1990 even the *average* National Basketball Association player had dribbled into the top 1% with a $600,000 salary. Baseball, since free agency, is an even richer game. Average pay in the big leagues smoked past $1 million this year, partly owing to megadeals like slugger Bobby Bonilla's $29 million five-year contract with the New York Mets. Ball clubs have been able to afford such lavish compensation in part because of an explosion in television revenues. The Mets, for instance, took in $38.3 million last year from CBS, ESPN, and local stations, more than any other team except the Yankees.

The good fortune of the "other" category may dim somewhat in the 1990s. In baseball the networks could be getting ready to rain on the revenues game. Commissioner Fay Vincent warns that any team owner who isn't preparing for a drop in his cut of the TV take "isn't in touch with reality."

For the entertainment industry, reality has already set in. The globalization of the

Actor Jack Nicholson is one of Hollywood's small band of super-rich.

music and movie businesses in the 1980s, plus all those nifty royalties from VCR owners, made Hollywood hum. The recent recession has taken much of the glitter off, although a handful of hotshots still command top dollar. Superstar Jack Nicholson, 55, reportedly took home $5 million for ten days' work on *A Few Good Men*, which Columbia Pictures will distribute this fall.

Doctors, dentists, and lawyers together account for almost a third of the very rich, about the same proportion as ten years ago. The big news here is the decline of the lawyers—down from 19% in 1981 to 13%—and the rise of the Hippocratic oath–takers, whose share climbed from 10% to 15%. Supply and demand may explain some of that shift. While the number of doctors rose only 43% in the 1980s, U.S. spending on health care ballooned 142%. In the years ahead, more intensive efforts to hold down medical costs may trim some of those gains.

FINALLY, WE come to the segment of the lucky 1% who in most Americans' eyes are unalloyed good guys—the founders and owners of new businesses. About 20% of the super-rich are entrepreneurs. Whatever your estimate of CEOs' or ballplayers' worth to society, there's no denying that these men and women—capitalism's equivalent of a high-wire act with no net below—are a breed apart, and not merely because of the risks they take. Through grueling years of work and worry, they create new enterprises, new jobs, sometimes whole new markets.

And at the moment, entrepreneurs are the primary engineers of economic growth. Between 1980 and 1990, FORTUNE 500 companies shed 3.4 million jobs, but companies with fewer than 500 employees created more than 13 million.

What do entrepreneurs have in common? Not much, says PSI's John DeMarco: "The biggest income earners are iconoclasts, with a remarkably wide range of investment patterns, attitudes, and consumption habits. You really can't make too many general statements about these people."

Take the couple on FORTUNE's cover. Demographically speaking, Bill and Lynne Byrne, who vaulted into the top 1% in the early 1980s, are about as typical as they could be: married, two dependent children. Still, Byrne regards himself as a lifelong maverick. "I wouldn't be where I am now without my independence, going against the grain, not doing 'the done thing,'" he muses. "Self-made people are natural nonconformists."

Often these iconoclasts are somewhat ahead of their time, acting on an idea just before it seems truly practical—like hawking Mexican fast food in Iowa in Byrne's case, or selling a million juice machines a year to diet-conscious consumers.

Juice machines? Absolutely. Meet the Cesari brothers, Steve and Rick, now living in Seattle, where they started Trillium Health Products just three years ago. It markets a $289 electric appliance called Juiceman—as well as a smaller, $150 version, the Juiceman Jr.—that squeezes the bejabbers out of vegetables and fruits to make a quick, healthful drink. Juicers are now about the hottest small appliance going, the Cuisinart of the 1990s, and retailers' main problem is keeping enough of them in stock. Trillium isn't the only company riding the wave, but the Cesaris say annual revenues have surged from $950,000 in 1989 to more than $75 million this year.

The oldest of eight children, Steve, 38, and Rick, 35, are too young to have been among the top 1% when the CBO started counting in 1977. They grew up in suburban Westchester County, New York, working after school and on weekends in their father's grocery store—until Dad died of a heart attack at age 48. Rick earned a premed degree in college before moving west to join a direct-mail marketing partnership. Steve went to Panama City, Florida, and started a chain of sporting goods stores.

"We've both been very much into nutrition and exercise for a long time," says Steve, "and we wanted to go into business together, but it wasn't until 1989 that we saw this opportunity." Once they saw it, "we hocked everything we had to raise startup capital. We even took out a home equity loan on our mother's house." (Mom is out of debt now.)

Besides selling juicers, Trillium runs seminars on nutrition that encourage people to eat more fruits and vegetables. "Consumption of meat is not only bad for you, it's destroying the planet," declares Rick. "By changing your eating habits, you can also help save the environment." Trillium's 160 employees, he adds, "believe strongly in what we're doing." At the company's Seattle headquarters, people don't take coffee

Bobby Bonilla scored a record contract with the Mets.

breaks. They take juice breaks, squeezing the stuff out of 4,000 pounds of organically grown vegetables per week.

Sudden success hasn't much altered the way the Cesari brothers live. Steve hauls his four kids around in a Chrysler minivan, and Rick drives a Chevy. They both spend lots of time with their families; Rick and his wife just had their first baby. The simple life is mostly a result of some distinctly post-Reaganite soul-searching. "In the 1980s I did pretty well in direct marketing, and the first thing I did was buy myself a Porsche convertible," says Rick. "Then that business went south, and I had already realized that material things weren't the answer anyway. The second time around, starting a business, you feel like you have to *contribute* something."

Even more families will achieve affluence in the 1990s than did so in the 1980s.

SOUND CORNY? Maybe, but consider this: When people from middle-class backgrounds suddenly find themselves in high cotton, they can come unhinged in a big way. A mission, a sense that life has some larger purpose, whatever one perceives that to be, is a powerful antidote to confusion and despair. Ask Michael Stolper, a money manager in San Diego who acts as a kind of amateur therapist and father confessor to 400 high-income clients. They trust him with some $3 billion of their assets, and many of their personal secrets too. "A big income is a two-edged sword," says Stolper. "People get seduced by money, but no matter how much you make, deep down you know you're the same schlub you always were. It's a shrink's bonanza."

The most contented among the top 1%, say Stolper and others, share two traits. First, they earn their money by doing something they truly love, so that the cash is just the frosting on the cake, a byproduct of their efforts rather than an end in itself. Second, they have a strong sense of a meaning in life that transcends the workaday routine of getting and spending.

The Cesaris, who donate cash and juicers to the homeless and other causes, find that larger purpose in promoting health and saving the planet. People like Elizabeth Clemmer find it in religious faith. Clemmer, 41, and two partners started Focus 21 International ten years ago. It now has 182 employees. Focus 21 makes biodegradable, non-animal-tested hair and skin care products in a 90,000-square-foot plant in Vista, California, and sells them to more than 100,000 haircutting salons across the U.S. and Canada.

No unworldly ascetic, Clemmer spends a lot of time on her 60-foot yacht, the *Tango Amour*. Yet, says she, "I have a strong relationship with God and feel very close to him in my life. I feel very blessed. Everybody has his or her own truth. But I really feel that no matter how much money people have, without a solid spiritual connection, they tend to be kind of . . . *lost*."

An active churchgoer, Clemmer five years ago began putting her beauty-business expertise into assisting people in need. With the help of nonprofit groups, she persuaded department stores like Saks and Neiman Marcus to donate time, talent, and clothes for a series of fashion shows to benefit cancer and AIDS research, the Children's League, the homeless, muscular dystrophy, and several West Coast hospitals. The shows have raised hundreds of thousands of dollars, but Clemmer insists it's no big deal: "I love doing this. It's a great way to have fun and do good at the same time."

Such laudable private generosity won't do much to assuage public animosity toward the top 1%. The widening abyss between the super-rich and everyone else, overstated and misunderstood though it may be, is real. Question is, will it continue to worsen?

Probably not. For one thing, the tax increases contained in the 1990 budget deal that George Bush struck with Democrats in Congress have already blunted the effect of some of the Reagan-era cuts. Nor are the stock and real estate markets likely to deliver such stunning gains in the decade ahead.

Demographic shifts are also likely to make more Americans feel, if not rich, at least considerably better off. In a report released last spring, the Conference Board, a business research organization, notes that because vast hordes of Americans are reaching their peak earning and spending years in the 1990s, "total personal income flowing to the nation's consumers will be growing a lot more quickly than the population." The study predicts that average household income will rise by 15% in the 1990s, up from 11% in the 1980s. Better still, several million families will ascend from the lower income brackets to the middle, and even more middle-class families will achieve affluence than did so in the 1980s.

Significantly, the best-educated workers will have the biggest edge. Income in families headed by college graduates, the Conference Board study says, will rise 35% during the 1990s, compared with a 25% increase for the population as a whole. By the end of the decade, such college-educated families will account for 25% of the population but will earn 40% of all personal income.

YOU'VE HEARD IT before, but the most powerful explanation for the growth in income inequality—a phenomenon that afflicts all developed economies and not just the U.S.—is that in the age of the microchip, high-paying jobs for low-skilled workers are gone. Continued economic growth—the kind that raises all boats and not just those flying yacht-club flags—will hinge upon a society's ability to generate a steady supply of educated employees. Attempting to close the income gap by raising taxes on the rich is attacking the wrong problem with a blunt instrument, one that could have unpleasant side effects, such as discouraging savings and investment. (The truly wealthy, after all, can always switch from realizing their capital gains to, say, clipping more coupons from their tax-free municipal bonds.)

Instead, policymakers should be directing most of their attention to how they can help better educate, train, and retrain American workers. Where *is* that post–Cold War peace dividend anyhow? And what more constructive way to spend it than by putting more government money to work where it's needed most? Some prime candidates: Head Start programs, inner-city schools (nearly 20% of U.S. high school students drop out before graduation), and college loans and scholarships.

As for what you can do about closing your personal wealth gap, you could do worse than to listen to consultant Thomas Stanley. "The quest for status—expensive cars, a second home, a country club membership, and so on—is the single biggest reason why a high income does not usually translate into real wealth," he says. "Any family can rise from middle-class to rich in this country by forgoing status, even for just one generation, and investing instead." Want to be really rich someday? Get educated, work hard—and resist the urge to splurge.

WHAT TO DO ABOUT WORKERS' COMP

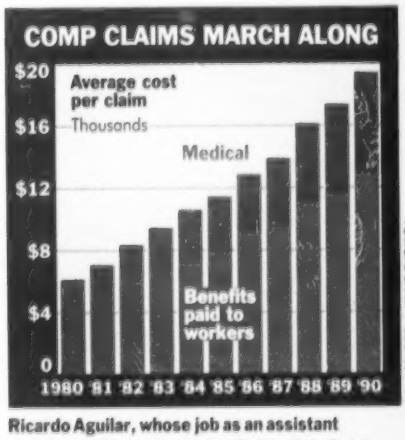
The costs are killing business. Managers can save plenty by focusing on safety and showing concern for injured employees. How about a call to that laid-up worker? ■ *by Mark D. Fefer*

THE WORKERS' compensation system is socking it to companies, and they are howling. Last year employers had to pour more than $70 billion into this insurance program, which covers workers hurt on the job. That's twice the bill of only six years ago.

The average cost of a "comp" claim has more than tripled over the past ten years, exceeding $19,000 and bruising even large employers. A FORTUNE 500 behemoth can easily pay out $50 million to $100 million a year in comp claims. Small companies have it especially rough. They often can't afford to self-insure as many large companies can, and their insurance premiums took annual double-digit jumps through much of the Eighties. In some states their premiums will do so again this year.

The economy as a whole is feeling the pain in slower growth. Workers' comp premiums are tied to a company's payroll, rising as employees are added or salaries increase. Recent surveys by the National Federation of Independent Business, the nation's largest small-business organization, reveal that in some states as many as one-fourth of the federation's members say they have laid people off or postponed new hiring and expansion specifically because of comp costs. Even La-Z-Boy Chair, the big furniture maker, felt the pinch last fall when it wanted to expand its plant in Neosho, Missouri, and add 200 to 300 workers to the 1,000 already on the payroll. Once the company took a look at the comp costs, the entire project was put on hold.

For several years now, reform of the workers' comp system has been near the top of the legislative agenda in many states. Business groups have been lobbying intensively for ways to slow the growth in benefits and for other structural changes that only lawmakers can put in place. But while these bills crawl through state assemblies,



FORTUNE CHART / SOURCE: NCCI

Ricardo Aguilar, whose job as an assistant operator at Weyerhaeuser calls for a lot of stair climbing, fractured his ankle. He now has a stationary job, scanning diapers for quality.

PHOTOGRAPH BY PHILIP SALTONSTALL

managers can effect dramatic cost savings on their own by focusing anew on safety and the care of injured employees.

Workers' compensation insurance pays medical expenses and part of lost wages to workers hurt on the job, whether the employee or the employer was at fault. It is a state-mandated program: Almost all employers are required to carry the coverage, and most get it through private insurers. (Big companies that can afford to self-insure sometimes do.) Premium rates are regulated by state insurance departments and vary from state to state and from one occupation to another. In Florida, for example, insuring secretaries costs about 70 cents per $100 of payroll, while protecting roofers costs a vertigo-inducing $48 per $100. Premiums also tend to rise with the number of claims. Benefits are set by state law, but a worker whose injury keeps him off the job usually receives about two-thirds of his regular weekly pay until he recovers. If he's found to have some kind of permanent impairment, he may receive additional benefits. His medical treatment costs are always fully paid.

WHAT WORKPLACE INJURIES COST

CONDITION	PERCENT OF ALL CLAIMS	AVG. COST PER CLAIM
Back strain	31	$23,916
Other sprains/strains	19	$13,611
Concussion/bruises	11	$12,055
Fracture	11	$23,138
Laceration/puncture	10	$9,722
Dislocation/crushing	3	$47,249
Burn	3	$12,833
Hernia	3	$24,499
Infection/inflammation	2	$13,805
Amputation	1	$40,249
Cumulative injury	1	$29,166
Occupational disease	1	$31,305

FOR MANY DECADES the system worked with something close to the efficiency its designers intended. But swelling medical costs, changes in the types of injury that are compensated, and disputes over awards for permanent disability have turned this quiet business backwater into a swamp of contention.

First off, medical costs. As nightmarish as the rise in total health care spending was in the Eighties, when it went from $1,063 per capita at the beginning of the decade to $2,566 in 1990, the cost of care under the comp system shot up some 50% *faster*. Why? In part because many of the cost containment strategies used by group health plans are either prohibited or neglected under workers' comp. For instance, in about half the states employers cannot require their injured people to see selected doctors. Comp is also first-dollar coverage: no deductibles or co-payments for the workers and therefore no incentive to think twice about paying the doc a visit.

The push for cost containment in group health has left comp the last blank check in medical care, and doctors may be turning to it to recoup losses elsewhere. A 1990 study by the Minnesota Department of Labor and Industry found that treatment for ailments such as back problems can cost more than twice as much when paid for by workers' comp as by Blue Cross.

Meanwhile the nature of worker injuries has changed. Once these had a terrible simplicity that was plain to the eye, like chopped fingers and broken bones. Today there are disorders that are more complicated and harder to assess. They can also lend themselves more easily to exaggeration or fraud. Back strain, for example, is both the most common workers' comp claim and one of the most nettlesome and expensive. It is hard to diagnose with any certainty, and two doctors can easily disagree about the severity of injury. Unequivocal answers are impossible for such questions as, How badly is the person hurt? What treatment does he need and for how long? When can he go back to work?

The comp system is also increasingly tripped up by claims for ailments that may have little to do with the workplace. Back problems, joint diseases, hearing loss, stress, and cancer can all be influenced by a worker's personal habits and genetic makeup. These disorders often arise gradually rather than through a single incident and may be due as much to aging as to job conditions. The result: expensive disputes between the worker and the company about the cause or nature of the illness. In 1990, California workers collected $7 billion in compensation claims, but the amount spent litigating disagreements was $1.5 billion.

Further contributing to all the litigation has been the rise of awards for permanent disability. Fair as such payouts may be, they are spawning battles for the best disability rating a worker can get. Each side enlists expensive forensic physicians to present diagnoses at the state workers' comp hearings because most states have no consistent guidelines for deciding how disabled a person is. Says Eric Oxfeld of the American Insurance Association: "Two workers with the same jobs and the same injury may end up with very different disability ratings. It's a crapshoot." And not for peanuts, either. Benefit payments for a permanent partial injury can last a lifetime and reach into the hundreds of thousands of dollars.

How do insurers keep up with this galloping payout rate? They don't. Though premiums have leapt, the increases in many states still fall short of what property and casualty insurers say they need to turn a profit. The industry's overall operating loss on the business came to $1.4 billion last year, and a number of insurers, including Liberty Mutual, the nation's largest workers' comp carrier, and USF&G, have stopped providing coverage in certain states.

Reform efforts are under way in many parts of the country. In Oregon and Colorado, for example, guidelines from the American Medical Association are now used for a more consistent and objective evaluation of disability. Colorado has also frozen doctors' fees for comp cases temporarily and limited the number of chiropractic visits a worker can indulge in. Several states are trying to discourage ambulance chasing by capping contingency fees for lawyers.

But reform will take time, and even then the manager at the work site will be the person best able to wrestle down costs. Here's how:

■ **Communicate with workers.** Jerry A. Miccolis, who heads the workers' comp consulting practice at Towers Perrin, says, "Most employees are completely in the dark about comp." A faded notice on the cafeteria bulletin board is usually the only thing that tells them about the system, while glossy brochures tout other benefits. "Some employers say, 'We're getting ripped off as it is. Why should we tell them more about workers' comp?' " Miccolis notes. The reason is that if the employer doesn't explain it, a TV ad

REPORTER ASSOCIATE *Sandra L. Kirsch*

for a lawyer will. And once an employee becomes an adversary, costs balloon.

■ **Show concern in an emergency.** The next critical point at which to communicate is right after an injury. Management needs to care for the worker, while maintaining some control over the case. One good way to do both is to have an on-site nurse who can provide immediate attention and help get the employee back to work. If he needs to be referred to a doctor, the nurse can also serve as a gatekeeper, guiding him toward sensible care. Marriott Corp. has adopted this strategy. The company installed an elaborate medical facility at its seven-year-old Atlanta hotel and runs smaller clinics in other cities. Says Chad Callaghan, Marriott's director of loss prevention: "We've found that the clinics reduce by 50% the frequency of injuries that result in lost time."

For an employee who does require outside care and time away from work, a sympathetic phone call or two letting him know he's missed can do a lot to assure his loyalty to the company. At Weyerhaeuser, which is self-insured, corporate safety director Ken Gipson encourages foremen to visit hospitalized employees and phone them periodically. Otherwise, Gipson says, "they tend to feel like someone's mad at them for getting hurt, like it will spoil the safety record or something."

■ **Penalize careless managers.** Another of Gipson's tactics, in addition to the bedside foreman, is to charge claims to the operating units where the injured employees work. Weyerhaeuser used to pay comp claims out of the corporate pool. Now every individual sawmill and plywood plant has to cover its own expenses. "We saw a tremendous increase in accident prevention activity," Gipson reports.

■ **Get employees back to work fast.** Ed Welch, a former workers' comp commissioner in Michigan and now a consultant in East Lansing, says that in his experience, "most men and women can't wait to get back during the first two or three weeks after they've been hurt. They feel bored and anxious. But if you leave them sitting idle for a few months or more, everything changes. Their attitude toward work and toward themselves deteriorates, and they never go back." And a dropout can leave an employer paying lifetime disability benefits.

Gipson is pushing for a speedier return of Weyerhaeuser's hurt workers. Says he: "The prevailing attitude of the company used to be that if you didn't have a full, unconditional release from your doctor to return to your regular job, then we had no place for you." That attitude is shared by the vast majority of employers. But Gipson has started a program of transitional work to ease an employee back into his regular job. A forklift driver with a sprained ankle, for example, can tally lumber or do office work. "The jobs have to be productive," Gipson warns. "We weren't just going to let someone sit in the tool room and read *Playboy*."

Weyerhaeuser is formalizing its return-to-work program with "task banks." Each department is responsible for finding assignments that an impaired person can handle and for contributing them to the bank. Says a human resources manager: "If you hit a supervisor when he's got 50 other things going on and say, 'What can this person do?' the response tends to be, 'I don't have anything for him.' You've got to have up-front planning." Moreover, if an employer has a job available and the worker refuses it, the company can usually cut his benefits.

Since Weyerhaeuser began getting its comp costs in hand in 1984, Gipson says, overall savings have come to $197 million. The cost of workers' comp claims has been chopped to 19 cents per man-hour, half what it was eight years ago.

■ **Find out what's causing injury.** A.T. Cross, the penmaker, began a systematic analysis of its workers' comp costs in 1988 with the help of consultant Michael Follick of Abacus Management Group in Providence. The company's insurance premiums for covering 1,300 workers at its Lincoln, Rhode Island, plant were tripling, and Cross decided to find out which parts of its operation were causing which injuries. Among the villains: safety buttons on a stamping machine. To make sure their hands did not get caught in the machine, workers had to push the buttons with both hands in order to stamp. The result was cumulative trauma, pain, and comp claims. So Cross invested in buttons that require mere touching rather than applied pressure.

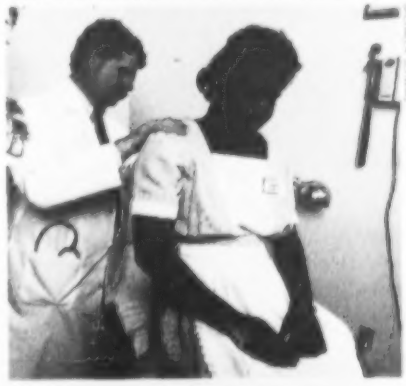
The analysis also turned up pockets of frequent back strain among people doing bench work, such as assembling pen cartridges. Too much sitting was the problem. In response, the company raised chairs and benches so that workers could sit or stand.

The impact in the first year was dramatic: a 43% reduction in injuries involving lost time and a 71% drop in total lost workdays. With that kind of control over safety, Cross could afford to self-insure beginning in 1990 at a savings of close to $1 million so far in comp costs. "Self-insurance in itself is not the solution," Follick emphasizes. "You've got to change your method of operation."

Change it soon, because the workers' comp system is only getting knottier. As the work force ages, those ailments that are already stymieing the system—back problems, joint diseases, hearing loss—will continue to increase. Legal reforms will be essential, but so will aggressive, compassionate management. F

CONCERN EQUALS CONTROL

Marriott's clinics provide attention to employees like housekeeper Rebecca Waller, who hurt her back in a fall. Workers can stand or sit on A.T. Cross's assembly line and avoid back strain.



COPING WITH THE DEFENSE BUILD-DOWN

Military cutbacks from master sergeants to nuclear subs pose economic and security risks. So far Washington isn't doing a bad job. But it needs to do better. Here's how. ■ *by Lee Smith*

AS THE COLD WAR fades into history, the gates are closing forever at military bases in the U.S. and abroad. Weapons production lines from Connecticut to California have shut down. That's good news for peace, a daunting challenge for policymakers.

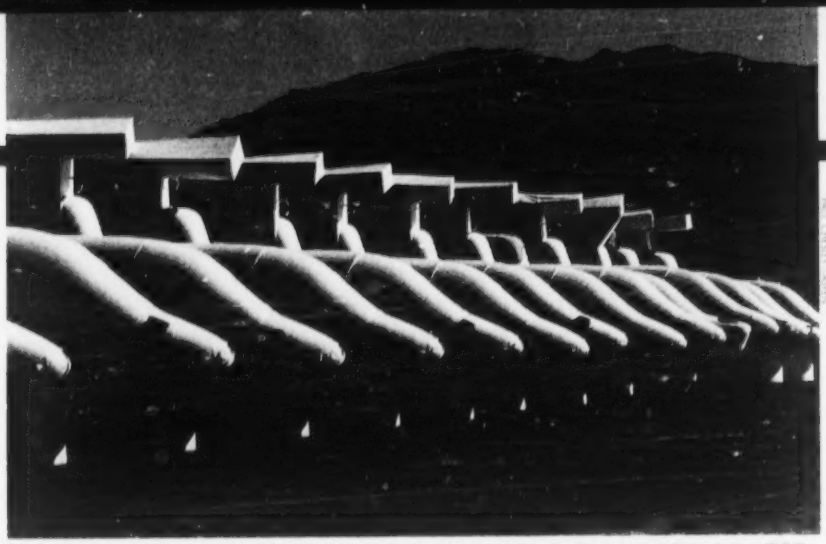
More than one million jobs—400,000 in uniform and over twice as many in the defense industry—may disappear by mid-decade. For Congressmen and other politicians from regions likely to be hardest hit, the economic consequences of the peace appear disastrous.

The prospect of grand-scale demobilization is raising security concerns as well. The U.S. downsized so recklessly after World War II that poorly trained and equipped GIs were chewed up by the North Koreans they encountered in 1950. Slashes in the defense budget after Vietnam created the infamous "hollow force," scraggly ranks of ill-disciplined troops. Will it happen again? Will America destroy the most competent armed force in its history?

Relax. So far Washington is cutting the military with more skill than usual. If that continues—and with a few additional improvements—this unprecedented restructuring will neither plunge the country back

The closing of U.S. military bases like this one outside Frankfurt provides an opportunity: turning highly trained soldiers into schoolteachers.

PHOTOGRAPH BY REGIS BOSSU—SYGMA



Helicopters mothballed in Arizona: With plenty of metal in inventory, the Pentagon is focusing on R&D.

into recession nor weaken national security. On the contrary, it should improve U.S. competitiveness in the long run.

But most of the tough decisions have yet to be made. The Bush Administration's $281 billion defense budget for fiscal 1993, which Congress is now debating, trims only $3 billion to $4 billion from what the military will likely spend this year. The main reason deeper cuts have been delayed is to provide time for defense contractors, and the communities that depend on them, to adjust. "None of the big firms appears mortally wounded, but all are going to lose some blood," says Wolfgang Demisch, defense industry analyst for UBS Securities.

Already the number of military suppliers has shriveled from 120,000 in the mid-1980s to 30,000 now—ranging from tiny machine shops and consultants up to industry leader McDonnell Douglas, which sold the government $8 billion worth of F-15s, Apache helicopters, and Tomahawk missiles last year (see table). The survivors will stay in business by maintaining and modernizing these old models rather than building new systems.

In many cases their laboratories will keep humming because the Pentagon plans to prepare for the battlefield of the 21st century by investing in prototypes of avant-garde weapons rather than new production runs. Lockheed, celebrated for the Skunk Works that produced the U-2 spy plane and Stealth fighter, and Martin Marietta, a leader in electronics, are particularly strong in basic research.

Exports will also help some contractors stretch out production lines. Finland, no longer worried about offending the Soviet Union, recently ordered 64 FA-18 fighter bombers from McDonnell Douglas for $3 billion. Even so, foreign sales are not going to rescue the U.S. defense industry. Says Gary Reich, a Shearson American Express analyst: "Nobody buys weapons the way we buy weapons."

CAN military manufacturers switch to more commercial lines of work? At the end of World War II, General Motors stopped making tanks, unpacked old tools, and turned out 1941 model cars for hungry customers with dollars they had been waiting a wartime to spend. Consumers don't seem to be starved for anything these days. Says Renso L. Caporali, chairman of Grumman Corp., which relies on the Pentagon for 58% of its sales: "If someone can name a civilian industry that doesn't suffer from overcapacity, I'd love to hear about it."

Instead of plunging into unfamiliar waters, as they have in downturns past, most defense companies are merely tiptoeing in this time round. Grumman, which lost a bundle on the bus business in the 1970s, is using skills developed for the military to create information systems for nonmilitary customers, including the police department in Seoul, South Korea. Northrop, maker of the B-2 bomber, is looking into possible opportunities in rail transportation. "We understand lightweight, strong structures that travel at high speeds," says Chairman Kent Kresa. "That's our technology."

By and large, however, military contractors will shrink, merge, or fail in the 1990s. What will this do to the economy? Critics and admirers of the military industrial complex vastly inflate its size and power. The Pentagon's shopping list is puny compared with the total of what consumers and businesses buy. For everything from aircraft carriers to management advice from Booz Allen & Hamilton, the bill came to $137 billion last year, or just 2.4% of GDP.

What *is* worrisome is that part of the defense industrial base might crumble and leave the U.S. vulnerable should it ever have to resume wartime production. The Bush Administration plans to identify and nurture leading-edge technologies, such as composite materials and electronic sensors, but will not try to save the entire supply network. What happens to the subcontractor that makes struts for the F-15? "It's not our job to keep him whole," says Deputy Defense Secretary Donald J. Atwood.

Basically, that's a sound policy. If a major conflict threatens, the economy should be robust enough to bring forth most parts and machinery, provided suppliers have a few years of lead time. (As this caveat suggests, American intelligence will need to be more vigilant—and accurate—in the post–Cold War era.) One particularly flexible sector is aerospace, where the U.S., led by Boeing, General Electric, and Pratt & Whitney, has a thriving commercial industry.

Ships are another matter. So scrawny is the U.S. commercial shipbuilding business that of the 3,000 oceangoing civilian ships ordered worldwide over the past three years, only three are being built at American shipyards. Unable to compete with Japanese and Korean rivals in the manufacture of supertankers and bulk cargo carriers, the

Captain Maria Myers is being forced to quit.

REPORTER ASSOCIATE: *Suneel Ratan*

half-dozen major yards that remain in the U.S. depend almost exclusively on the Navy.

Building a nuclear-powered sub or aircraft carrier is a complex and arcane task, comparable, in a profane way, to cathedral building in the high Middle Ages. If the teams that make these ships are dispersed, it could be as difficult to make another U.S.S. *George Washington*, the Navy's newest carrier, as it would be to recreate Chartres.

To prevent that, the Navy should bunch its dwindling purchases of new ships to guarantee that at least two yards prosper. One survivor ought to be Tenneco's Newport News, the largest manufacturer of vessels in the Western Hemisphere. It has a work force of 26,000 and is the only yard that can make nuclear-powered carriers, like the *George Washington* and two others under construction, and nuclear subs, as well as a full range of conventional ships, including commercial ones.

What Newport News wants from the Navy is maintenance work on nuclear subs to keep its reactor skills current, contracts to make some cargo ships, and an order for an additional $4.2 billion carrier. The U.S. doesn't need another flattop, but if that's the price for holding together a vital corps of craftsmen, it might be justified. To keep down operating expenses, which can run to $900 million a year for a carrier and 20 or so escort ships, the Navy should then retire one or more of its older carriers.

The real pain of demobilization will be borne by those who are put out of work. Congress's Office of Technology Assessment estimates that as many as 1.4 million jobs could disappear by 1995—about 500,000 uniform and civilian slots in the Defense Department and 900,000 in weapons plants. That's almost as many as the 1.7 million manufacturing jobs that the OTA calculates disappeared during the 1980s when auto, steel, and other industries contracted.

In earlier demobilizations the Pentagon gave little thought to how it reduced the ranks. Dogfaces who had been drafted were happy to quit. Officers who were considered excess were simply fired. Gordon Smith, a retired lieutenant colonel living in Virginia, recalls the post-Vietnam downsizing: "A young captain with car and house payments would find a letter in his mailbox telling him he had been selected to leave in 90 days." The military provided no severance pay and no help in finding a new job, a callousness that not only angered those who left but also depressed those who stayed.

This time around Christopher Jehn, Assistant Secretary of Defense for Manpower, consulted some private employers before coming up with a plan not too different from the sort of separation packages that industry provides. Officers and enlisted folks are offered lump sums or annuities to leave. If they refuse, they run the risk of being mustered out later with a much smaller benefit. After eight years in the Army, Corporal Eric McArtor, 31, a military policeman at Fort Eustes, Virginia, accepted a one-time payment of $17,500, which he will use to start training at a civilian police academy in Texas.

NOT EVERYONE is happy. "I feel like I'm in a tub of water and the plug has been pulled," says Captain Maria Myers, 33, a public affairs specialist at Langley Air Force Base. "I don't know if I'm going into the sewer or I'll be recycled into something else." She is being forced out after seven years, she believes, because people in her category, reserve captain, have almost no chance of

HOW THE TOP GUNS ARE FARING

Company	Pentagon contracts fiscal 1991 (millions)	Comments
MCDONNELL DOUGLAS St. Louis	**$8,057.3** 45% of sales	**Top planemaker reeling from troubles with the C-17 cargo jet and the end of F-15 fighter production. Lost out to General Dynamics and others in competition to build next-generation fighter. Civilian MD-80 and MD-11 business mixed, and deal for Taiwanese investment looks shaky.**
GENERAL DYNAMICS Falls Church, Va.	**$7,848.2** 85% of sales	**Selling missile business to Hughes for $450 million; member of team picked to build 650 F-22 fighters for up to $100 billion. Electric Boat division in trouble if White House wins bid to kill two Seawolf submarines worth $2 billion each. Tank business dead.**
RAYTHEON Lexington, Mass.	**$4,099.8** 43% of sales	**Missile maker has $8 billion order backlog. Work for Pentagon on Scud-busting Patriot program complete, but looking for boost with sales in Middle East. Hedging its bets by diversifying into energy and environmental engineering services.**
NORTHROP Los Angeles	**$3,319.2** 58% of sales	**With 50% of all revenues accounted for by B-2, facing grim prospects since program will be terminated after at most 20 planes. But business as a subcontractor providing avionics and advanced composites for commercial and military aircraft will likely expand.**
MARTIN MARIETTA Bethesda, Md.	**$2,689.2** 44% of sales	**Diversification into civilian materials and aerospace bodes well for rocket and aircraft-component maker. Lost $385 million bid with Lockheed for LTV aircraft and missile business, but that might revive if Pentagon blocks $450 million sale to French company Thomson-CSF.**
LOCKHEED Calabasas, Calif.	**$2,666.6** 27% of sales	**Poised to move up contractor list as leader of F-22 team, but congressional grumbling about cost of the program is mounting, and recent crash of prototype threatens delays. Also makes rocket boosters, C-130 transport, and Trident sub-based nuclear missiles.**
GRUMMAN Bethpage, N.Y.	**$2,363.5** 58% of sales	**Premier builder of carrier-based planes, but its big production lines—F-14 fighter and A-6 attack craft—are halting this year. Vying for $50 billion Navy A-X attack plane, but cuts could strangle program in crib. May end up downsizing to maker of electronics.**

promotion regardless of talent. Still, the $6,000 annuity she will get for the next 14 years is a generous settlement.

Among the other losers are 100,000 or so young people the military will not recruit this year. In the mid-1980s the Pentagon signed up as many as 350,000 newcomers annually, many high school graduates trying to learn a skill or save for college. For blacks and Hispanics the military has offered a better chance for promotion than most other occupations. During 1992, hiring will drop to 210,000. Jehn acknowledges that will mean a loss of opportunity. "Still, none of us wants to make the military a high-tech Job Corps," he points out, adding that the Pentagon expects the percentage of minorities (30%) and women (11%) in the services to remain about the same.

Indeed, the release of some black officers, both commissioned and noncommissioned, onto the civilian market could be a boon. Police work will likely be a growth industry in the 1990s that will demand the disciplined, motivated talent the military produces. Los Angeles is just the most obvious of a number of cities that might find it easier to repair community relations by hiring more cops who look like the citizens they serve. Only 36% of its force is black or Hispanic, vs. 57% of its population.

Also, military training leans toward science and engineering, disciplines in short supply in the inner city. Some of those discharged sergeants and captains should be turned into teachers. "What great role models they'd make for kids in East St. Louis," says Murray Weidenbaum, director of the Center for the Study of American Business at Washington University. "This could be the real peace dividend the country gets from defense cutbacks."

THE WAY to accomplish it, says Jehn, is for all states to imitate Florida, which allows instructors to start teaching before going through all the formalities of certification. One of Jehn's predecessors, Lawrence Korb, suggests an additional incentive. Currently those who leave the military before putting in 20 years receive no real pension. Let them count years spent in civilian teaching as part of their service, says Korb, now a senior fellow at the Brookings Institution.

Similarly, the contraction of the defense industry will push a lot of technical talent onto the commercial market—and none too soon. Japan, with only half the U.S. population, graduates about as many engineers. Moreover, the minuscule Japanese defense industry hires very few, unlike its U.S. counterpart, which in 1990 employed 342,000, or 18% of the nation's engineers.

Finding new jobs, particularly jobs that match their current wages, will be most difficult for blue-collar workers and middle managers. The Democrats want to spend $1.2 billion or more a year to help retrain them. President Bush in late May proposed a more modest $200-million-a-year program. In addition, some Democrats want to build two more Seawolf submarines, at about $2 billion each, even though the Navy doesn't need them. The prime reason is to support the economy of southeastern Connecticut.

But why should communities harmed by

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the loss of defense installations be treated more generously than those that suffer the shutdown of an auto or steel plant? True, unemployment will increase because Washington has changed a policy. But when the Fed raises interest rates, carpenters and bricklayers get tossed out of jobs as families stop buying homes. Government doesn't pay them top rates to do useless work.

"None of us wants to make the military a high-tech Job Corps."

Where both the Administration and Congress have fallen down is in their failure to design a military budget that answers the critical question: What does the U.S. need to guarantee national security? Washington is sure to spend billions more than necessary because Congressmen are guarding constituents' jobs and the Bush Administration is protecting generals' dreams. Despite its pledge to concentrate on R&D, for example, the Pentagon wants to proceed to full-scale production of the next generation of stealthy and souped-up fighter planes, the F-22. (The only prototype model so far crashed in an April test flight.) The cost of 650 planes could run to a staggering $100 billion. The project might have made sense when an ambitious Soviet aerospace industry seemed capable of matching the best in the U.S. It doesn't now.

Les Aspin (D-Wisconsin), chairman of the House Armed Services Committee, is a rare policymaker who has drafted a plan to shape the military to meet conceivable threats. The Bush Administration is proposing to shrink the military by 25% over five years—saving $43 billion above what would have been spent before the Soviet Union collapsed. Aspin would resize the Army, Navy, Air Force, and Marines to save an extra $48 billion over the same period.

He justifies his shrinkage by listing the countries that might challenge the U.S. military in the next decade: Iraq, Iran, Syria, Libya, North Korea, China, and Cuba. Only China has more soldiers than Iraq had on the eve of Desert Storm, and the Chinese have fewer tanks and artillery.

Aspin concludes that it is hard to imagine even a coalition of hostile forces that could not be leveled with a punch like the one the U.S. threw at Iraq. Adding all the potential calamities up and figuring in the might of America's allies, he calculates that the largest force the U.S. needs is this: nine active and six reserve Army divisions (compared with the current 16 and ten); two active Marine divisions and one reserve (vs. three and one now); 720 fighter planes with 570 in reserve (vs. almost 1,600 and 860 currently); and 340 ships (vs. 520 afloat now).

Overall, Washington is off to a reasonably good start at shrinking the military. Adopting the Aspin alternative would make the fit a lot better. There's little chance that will happen this year. But next year, if the economy continues to strengthen and the impulse to subsidize make-work defense jobs declines, who knows? For the first time ever the U.S. just might get demobilization right. F

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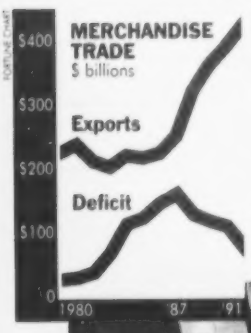
U.S. EXPORTERS ON A GLOBAL ROLL

FORTUNE's annual ranking shows how strong sales abroad help companies offset weakness in the American economy. Foreign subsidiaries are more important than ever. ■ *by Therese Eiben*

REASON NO. 1 for going global: It provides a powerful extra source of growth. While U.S. companies hunkered down to tough out an anemic recovery in the domestic market last year, U.S. exports rose to a new record—pushing America past a flagging Germany as the world's champion exporter. Sales of the FORTUNE 500 dropped in 1991, but exports of the list's 50 largest exporters rose 10%.

Just a fluke, or is world trade truly reordering itself? Some analysts dismiss last year's U.S. domination of international markets as a phenomenon of the dollar's weakness. But Commerce Department chief economist Antonio Villamil thinks otherwise: "Export growth will continue solidly this year," he predicts, partly because U.S. companies are designing products more attentively to meet the wants of foreign customers. Villamil and other economists note further that U.S. companies are manufacturing an ever broader array of products in overseas subsidiaries, producing sales that are an important part of their global business but don't get counted as exports. Philip Morris (No. 12) took in over $13 billion of sales from non-U.S. subsidiaries last year, for example, far more than its $3.1 billion of exports.



The industry adding sales fastest overseas is office and computing machinery, which increased domestic revenues 32% from 1983 to 1989, vs. a 166% increase abroad. Sun Microsystems, which didn't even exist a decade ago, last year got more than half its $3.3 billion of sales from outside the U.S.

Beleaguered at home in 1991, automakers found relief in exports and other international sales. General Motors' export sales jumped $1 billion over 1990. The largest U.S. auto exporter to the Middle East, GM did a brisk business replacing vehicles destroyed in the Persian Gulf war. The company continued to establish dealerships and assembly plants in Eastern Europe. Ford, with 20 plants in Western Europe, is well positioned in the world's largest integrated market. Chrysler opened a Eurostar minivan assembly plant in Graz, Austria, last year, capitalizing on its domination of the European minivan business.

The trend toward overseas production is welcome because it helps the U.S. in all sorts of ways:

■ It finesses many of the looming worries about the formation of protectionist trade blocs. Dow Chemical's joint venture with Sumitomo Chemical to make high-performance plastics for medical equipment and motor vehicles will build the largest polycarbonate resins plant in Japan. In the same vein are Sun Microsystems' joint venture with Fuji/Xerox, also in Japan, and an alliance between Ford and Volkswagen in Portugal.

■ Making products abroad helps U.S. companies understand the needs of foreign customers. Results include such items as Ford's windshield wipers designed to accommodate the superhigh speeds of German autobahns and Hewlett-Packard's computer manuals in Turkish.

■ Growing foreign operations even help U.S. exports as traditionally measured. Reason: At least 25% of merchandise exports are intercompany transfers—sales of products, components, and subassemblies by U.S. parent corporations to non-U.S. affiliates.

The National Association of Purchasing Management says export orders continued to expand in the first four months of 1992, and the outlook is definitely sunny. U.S. exports have increased every year since 1985, recently weathering economic downturns in Canada, Western Europe, and Japan. Economists forecast rebounds in all those places later this year—and U.S. exporters are set to ride the wave. F

Building foreign sales fast, Sun Microsystems distributes U.S.-made computers from a Tokyo suburb.

TOP 50 U.S. EXPORTERS

RANK 1991	1990		MAJOR EXPORTS	U.S. EXPORTS 1991 $ millions	% change from 1990	As % of total sales %	RANK	TOTAL SALES 1991 $ millions	FORTUNE 500 SALES RANK
1	1	**BOEING** Seattle	Commercial and military aircraft	17,856.0	11.0	60.9	1	29,314.0	12
2	2	**GENERAL MOTORS** Detroit	Motor vehicles, parts	11,284.7	9.4	9.1	39	123,780.1	1
3	3	**GENERAL ELECTRIC** Fairfield, Conn.	Jet engines, turbines, plastics, medical systems	8,614.0	20.8	14.3	25	60,236.0	5
4	5	**INTL. BUSINESS MACHINES** Armonk, N.Y.	Computers, related equipment	7,668.0	23.8	11.8	31	64,792.0	4
5	4	**FORD MOTOR** Dearborn, Mich.	Motor vehicles, parts	7,340.0[1]	3.4	8.3	41	88,962.8	3
6	6	**CHRYSLER** Highland Park, Mich.	Motor vehicles, parts	6,168.0	23.3	21.0	12	29,370.0	11
7	9	**MCDONNELL DOUGLAS** St. Louis	Aerospace prod., missiles, electronic systems	6,160.0	74.1	32.9	5	18,718.0	21
8	7	**E.I. DU PONT DE NEMOURS** Wilmington, Del.	Specialty chemicals	3,812.0	(12.4)	10.0	34	38,031.0	8
9	10	**CATERPILLAR** Peoria, Ill.	Heavy machinery, engines, turbines	3,710.0	8.0	36.4	4	10,182.0	45
10	8	**UNITED TECHNOLOGIES** Hartford	Jet engines, helicopters, cooling equip.	3,587.0	(0.5)	16.9	15	21,262.0	16
11	13	**HEWLETT-PACKARD** Palo Alto, Calif.	Measurement and computation prod. and sys.	3,223.0	14.5	22.2	11	14,541.0	26
12	12	**PHILIP MORRIS** New York	Tobacco, beverages, food products	3,061.0	4.5	6.4	46	48,109.0	7
13	11	**EASTMAN KODAK** Rochester, N.Y.	Imaging, chemicals, health products	3,020.0	2.1	15.4	21	19,649.0	18
14	14	**MOTOROLA** Schaumburg, Ill.	Commun. equip., cellular phones, semicond.	2,928.0	4.5	25.8	8	11,341.0	39
15	27	**ARCHER-DANIELS-MIDLAND** Decatur, Ill.	Protein meals, vegetable oils, flour, grain	2,600.0[2]	123.6	30.3	6	8,567.7	60
16	17	**DIGITAL EQUIPMENT** Maynard, Mass.	Computers, related equipment	2,200.0	14.6	15.7	19	14,024.2	28
17	24	**INTEL** Santa Clara, Calif.	Microcomputer components, modules, systems	1,929.0	60.4	40.4	3	4,778.6	106
18	18	**ALLIED-SIGNAL** Morristown, N.J.	Aircraft and automotive parts, chemicals	1,729.0	(5.9)	14.6	23	11,882.0	36
19	30	**SUN MICROSYSTEMS** Mountain View, Calif.	Computers, related equipment	1,606.0	43.7	49.3	2	3,259.8	146
20	15	**UNISYS** Blue Bell, Pa.	Computers, related equipment	1,598.0	(27.5)	18.4	13	8,696.1	58
21	21	**RAYTHEON** Lexington, Mass.	Electronics, environmental syst., aircraft prods.	1,556.0	8.4	16.6	17	9,355.5	51
22	20	**WEYERHAEUSER** Tacoma	Pulp, paper, logs, lumber	1,550.0	(0.6)	17.8	14	8,701.6	57
23	22	**DOW CHEMICAL** Midland, Mich.	Chemicals, plastics, consumer specialties	1,376.0	2.4	7.1	44	19,305.0	20
24	19	**GENERAL DYNAMICS** St. Louis	Tanks, aircraft, missiles, gun systems	1,370.0	(15.6)	14.3	24	9,548.0	50
25	28	**MERCK** Rahway, N.J.	Health products, specialty chemicals	1,342.0	16.1	15.6	20	8,602.7	59
26	25	**MINNESOTA MINING & MFG.** St. Paul	Industrial, electronic, and health products	1,275.0	6.3	9.6	36	13,340.0	29
27	33	**INTERNATIONAL PAPER** Purchase, N.Y.	Pulp, paperboard, wood products	1,200.0	9.1	9.4	37	12,703.0	31
28	23	**UNION CARBIDE** Danbury, Conn.	Chemicals, plastics	1,200.0	(6.3)	16.3	18	7,346.0	66
29	31	**TEXTRON** Providence	Aerospace and consumer products	1,171.0	6.2	14.9	22	7,840.1	63
30	34	**HOECHST CELANESE** Bridgewater, N.J.	Chemicals, plastics, fibers, pharmaceuticals	1,158.0	6.7	16.9	16	6,856.0	75
31	26	**WESTINGHOUSE ELECTRIC** Pittsburgh	Electrical products, electronic systems	1,141.0	(4.5)	8.9	40	12,794.0	30
32	35	**MONSANTO** St. Louis	Herbicides, chemicals, pharmaceuticals	1,128.0	4.5	12.6	30	8,929.0	53
33	37	**XEROX** Stamford, Conn.	Copiers, printers, document processing services	1,040.0	15.6	5.8	47	17,830.0	22
34	36	**ALUMINUM CO. OF AMERICA** Pittsburgh	Aluminum products	967.0	4.4	9.7	35	9,981.2	46
35	41	**ABBOTT LABORATORIES** Abbott Park, Ill.	Drugs, diagnostic equipment	957.0	17.5	13.8	27	6,921.7	74
36	16	**OCCIDENTAL PETROLEUM** Los Angeles	Agricultural products, coal	951.0	(54.2)	9.2	38	10,304.8	43
37	29	**COMPAQ COMPUTER** Houston	Computers, related equipment	950.0	(15.3)	29.0	7	3,271.4	145
38	39	**FMC** Chicago	Armored military vehicles, chemicals	913.0	7.7	23.2	10	3,931.5	119
39	38	**MILES** Pittsburgh	Chemicals, health and imaging products	877.0[3]	1.4	14.2	26	6,197.4	85
40	47	**COOPER INDUSTRIES** Houston	Petroleum and industrial equip., elec. products	835.0	26.0	13.5	28	6,162.6	86
41	40	**ROCKWELL INTL.** El Segundo, Calif.	Electronics, automotive parts	828.0	(0.8)	6.9	45	12,027.9	35
42	43	**HONEYWELL** Minneapolis	Building, industry, and aviation control systems	808.0	7.7	13.0	29	6,220.9	83
43	45	**BRISTOL-MYERS SQUIBB** New York	Drugs, medical devices, consumer products	807.0[3]	8.9	7.1	43	11,298.0	40
44	50	**LOCKHEED** Calabasas, Calif.	Aerospace products, electronics, missile systems	794.0	35.0	8.1	42	9,809.0	47
45	32	**EXXON** Irving, Texas	Petroleum, chemicals	744.0	(32.4)	0.7	50	103,242.0	2
46	42	**DEERE** Moline, Ill.	Farm and industrial equipment	713.0	(5.9)	10.1	33	7,055.2	72
47	44	**AMOCO** Chicago	Chemicals	712.0	(4.2)	2.8	49	25,604.0	14
48	46	**TENNECO** Houston	Farm, construction, and auto equipment	692.0	(2.7)	4.9	48	14,035.0	27
49	49	**ETHYL** Richmond	Specialty and petroleum chemicals	655.0	10.5	25.4	9	2,574.8	173
50	48	**REYNOLDS METALS** Richmond	Aluminum, aluminum and plastic products	603.0	(5.6)	10.4	32	5,784.5	93
		TOTALS		130,406.7				987,755.1	

[1]Excludes some U.S. export figures. [2]Includes sales value of grain merchandise; 1990 figure did not. [3]Includes Canadian exports.
[4]A wholly owned subsidiary of Bayer AG, Germany. [5]FORTUNE est.

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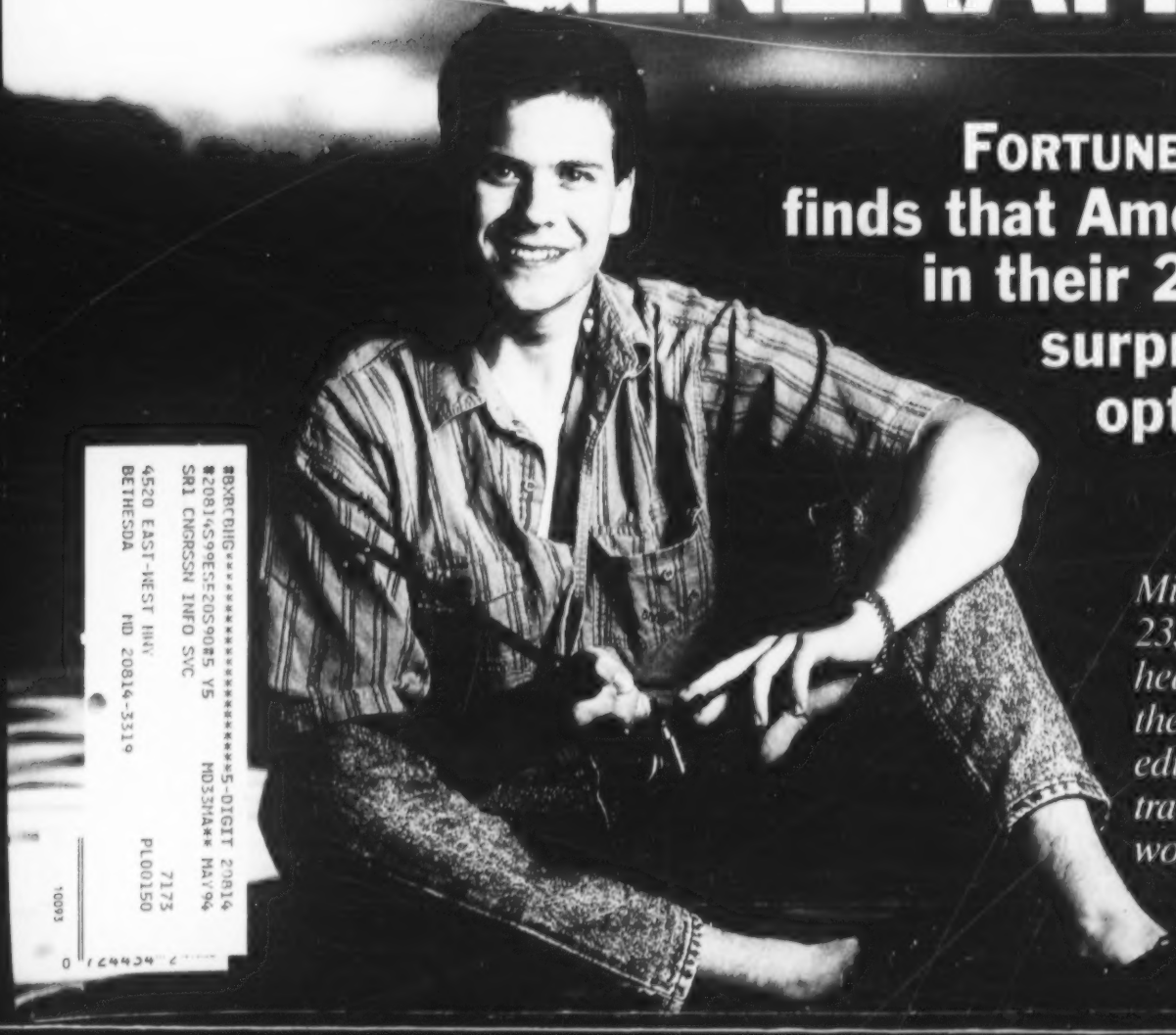
THE UPBEAT GENERATION

A new FORTUNE survey finds that Americans in their 20s are surprisingly optimistic



Michael Konyk, 23, has a head start on the new dream: education, travel, and work he enjoys.

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JULY 13, 1992

VOL. 126, NO. 1

FORTUNE

THE SOCIETY/COVER STORY

ABOVE: Jim and Kim Malin at home in Wyoming with daughters Maggie and Katie. Photo by Karen Kuehn (Matrix).

COVER: Konyk, photographed by Alan Levenson, exemplifies his generation's sense of freedom.

"People my own age kind of make me nervous. We haven't had our moral fiber tested as much as the people who came before us." 42

THE UPBEAT GENERATION 42

Surprise! A FORTUNE poll says working Americans in their 20s are optimistic about their careers and financial prospects, and expect to live just as well as their parents. What explains their optimism? A different view of the American dream: not the accumulation of material objects, but the acquisition of intangibles—a rich spiritual or family life, a rewarding job, the chance to help others, and the opportunity for intellectual enrichment. *by Alan Deutschman*

18-MONTH FORECAST

THE ECONOMY COMES BACK 56

Leaving behind three years of stagnation, recession, and halting recovery, the economy is finally entering a period of recognizable expansion. Growth will continue over the next 18 months at a sustainably moderate pace. *by Vivian Brownstein*

THE WINNERS AND LOSERS 62

Sure, it's the slowest recovery in memory. But most industries are getting at least a shot at growth and are making the best of it. A sector-by-sector analysis. *by Andrew Erdman and Sally Solo*

INNOVATION

PRODUCTS TO WATCH 81

AT&T's Smart Phone that lets you autodial your pals and check on your bank account, the Digital Compact Cassette and recorder, and Thomson's wide-screen TV and camcorders. *by Alison Sprout*

CORPORATE PERFORMANCE

INSIDE AMERICA'S BIGGEST PRIVATE COMPANY 82

Cargill, the grain trading dynasty, faces tumultuous change: a CEO from outside the family and a move into higher-value businesses. In a sharp break with precedent, the normally secretive managers of the second-largest diversified services company in the U.S. allow FORTUNE an extensive look inside. *by Ronald Henkoff*

COMPANIES TO WATCH 91

By steering clear of flash-in-the-pan growth after a leveraged buyout, International House of Pancakes has increased sales and maintained quality in its franchises. *by Richard S. Teitelbaum*

Also: The Money Store and Lifetime Hoan.

"Perot's tough stance would mean the party is over vis-à-vis Japan's predatory and protective trade practices." 12

"The market will peak later this year, followed by a bear market that lasts maybe nine months." 29

"Our competitors are foreign companies that have bankers and customers as owners. Their shareholders are patient." 82

"Nationalist sentiments, suppressed by the fictional notion of international socialism, are now resurfacing." 96

"I've never seen so many people trying different approaches to make one thing." 100

"He always learns from the mistakes of people like Donald Trump." 106

EXECUTIVE LIFE

WHAT FREQUENT FLIERS KNOW 92

They don't check luggage, of course, and they choose mind control over sleeping pills. They also have informed tastes in airlines, especially those that upgrade you to first class. *by Faye Rice*

EUROPE

'THEM' 96

Fleeing war, poverty, and repression, immigrants are flooding a Europe grown increasingly intolerant—and derailing the drive toward the unified market that multinational companies have been banking on. Closer political union among the 12 members of the EC now looks tenuous. An immigration policy is badly needed. *by Carla Rapoport*

TECHNOLOGY

THE RACE FOR A RARE CANCER DRUG 100

Taxol comes from a scarce tree and costs the earth to make. Bristol-Myers Squibb has already poured $100 million into developing it, but smaller outfits are right behind. *by Gene Bylinsky*

TECHNOLOGY TO WATCH 105

Interactive television lets you match wits with other fans calling a basketball player's next move—and maybe even advise a President Perot on policy. *by Gene Bylinsky*

COMPETITION

A BILLIONAIRE'S GLOBAL STRATEGY 106

Li Ka-shing, the richest man in Hong Kong, is shopping for bargains in the West. He's got a lot of cash, and he is investing in real estate, cellular phones, even show business. *by Louis Kraar*

DEPARTMENTS

EDITOR'S DESK 4

How FORTUNE got Cargill's go-ahead for a comprehensive corporate profile of the enormous multinational. Also: Which twin is the taxol?

INDEX 8

NEWS/TRENDS 12

Signs of life in the Northeast, Japan sweats a Ross Perot presidency, a surprising PC gender gap, hip families drive a Detroit hit, and free trade as whipping boy. Also: The wrong way to cut CEO pay, why Japan still loves Ray Josephs, Merrill Lynch plans lower fees, and Washington adds to the Fannie Mae family.

PERSONAL INVESTING 29

Looking for more than the skimpy returns from bank CDs and money market funds? Go for safety with some sizzle. Here's a guide to mutual funds for the fainthearted. *by Susan E. Kuhn*

Also: Are environmental stocks about to sprout? and Portfolio Talk with Robert Farrell, chief market analyst at Merrill Lynch.

LETTERS TO FORTUNE 36

FORTUNE PEOPLE 110

Where the toughest bosses end up: From Frank Lorenzo to Donald Rumsfeld, those chief executives sometimes identified as "mean bastards" aren't retiring. They're offering others the benefit of their experience. *by Laurie Kretchmar*

KEEPING UP 111

A radical with clout, bankers on the hot seat, more news about spineless animals, what pollsters know about Ross Perot (ask Mr. Statistics), and other matters. *by Daniel Seligman*

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EDITOR'S DESK

INSIDE A SECRETIVE GIANT

Henkoff examines the biggest private company.

LONG-TERM thinking. It's a concept that has become all too rare at many American companies. Not so at Cargill Inc., the largest privately held corporation in the U.S. At age 127, this giant commodities conglomerate is still controlled by its founder's descendants. Their vision for the future extends well into the next century, an excellent example of managing for the long haul. Our only problem: The company almost never talks to the press.

Ronald Henkoff, our Chicago bureau chief, got a firsthand lesson in the art of long-term planning. He first approached Cargill, based in Minnetonka, Minnesota, in early 1989. It took three years of letters, conversations, even a formal discussion by Cargill's board, before he got the go-ahead for a comprehensive corporate profile.

The wait was worth it. Henkoff was given unprecedented access not only to top management but also to Cargill's operations in the U.S., Canada, and Brazil. Says he: "It was encouraging to find a company that prospers in basic industry, a part of the economy where America has supposedly lost its edge."

Henkoff also discovered a company in the midst of a tumultuous transition. One major challenge: keeping Cargill family hands. When Chairman Whitney MacMillan, a great-grandson of the founder, retires in three years, no member of either of Cargill's two controlling clans will be ready to succeed him. Says Henkoff: "The story became much more than an inside look at a secretive company. It's about a company that has deliberately set out to manage change, even if it has to alter the very formula that has led to its long success."

Henkoff's enlightening portrait of this grand dodecagenarian begins on page 82.

FORTUNE prides itself on accuracy, even where you can't see the difference. For Gene Bylinsky's story on the new cancer drug taxol (page 100), Jay Dickman photographed Hauser laboratories technicians holding what the company said was a sample of the expensive stuff. After the story was laid out, we learned that the "sample" was another white powder that *looks* like taxol. So, at considerable expense, we sent Dickman back. His second photo is almost indistinguishable from the first—but this time it's the real thing.

The fake taxol (left) and the right stuff

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259), Published bi-weekly, with three issues in October, by Time Inc. Magazine Co., Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., President; Robert L. Miller, Treasurer; Peter M. Johnston, Secretary. Subscription rates, payments, and offers: U.S. possessions and Canada, one year $51.95; Mexico, one year $51.95; all other countries, one year $63.95. Second class postage paid at New York, NY and at additional mailing offices. POSTMASTER: Send address changes to FORTUNE, P.O. Box 60001, Tampa, FL 33660-0001. For subscription queries, call Customer Service at 1-800-621-8000. Time Inc. GST #R122781974.

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from a generation of people who had ideals and goals beyond contentment. Although he has proved right about the inner-city conflagration within months of publication, his optimism about the reaction of American society is, alas, doubtful. We'll watch it on TV and go "tsk, tsk."

SPENCER WELCH
Brewster, New York

WHAT'S SAUCE FOR THE GOOSE

Re "The Battle of the Bean Counters" (June 1): Banks made real estate investors like me write down the value of our real estate, thus deflating our net worth to the point of bankruptcy. How in the world can they claim they should be insulated from the application of this practice on their own balance sheets? If bank credit departments can discover all they need to know about their clients' net worth and liquidity from financial statements, bank stockholders should be able to do the same.

WILLIAM S. CHERRY
William S. Cherry & Co.
Galveston, Texas

WHERE CREDIT IS DUE

The In Situ Detoxifier technology at the Superfund site pictured in "Talk About Pay for Performance!" (May 4) was invented and developed by Frank Manchak Jr., president of Alternative Technologies for Waste, and not by Science Applications International Corp. as you report in the caption. SAIC evaluated the technology under an Environmental Protection Agency program.

MICHAEL E. MANCHAK
Vice President
Alternative Technologies for Waste
Santa Barbara, California

CORRECTIONS

In "What Business Thinks of Perot" (June 15) FORTUNE *misidentified the person who said, "... a dogmatic CEO like Perot would have difficulty functioning in Washington unless he could destroy Congress." The speaker was Jack Corn, CEO of Quaker State Corp.*

"What CEOs Really Make" (June 15) misstated Kroger's 1987–91 total return to investors. Because the company paid a large special dividend in 1988, the total return was 49.7% annually—No. 1 among the 200 companies listed.

The caption identifying the three people in the opening photograph of "Selling Advice to the Super-Rich" (June 29) transposed the names of David Horn and Charles Hopper.

FORTUNE *regrets the errors.*

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THE UPBEAT GENERATION

Surprise! A FORTUNE poll says working Americans in their 20s are optimistic about their careers and financial prospects. They expect to live just as well as their parents. ■ *by Alan Deutschman*

COMPARING themselves with their parents, they think it's going to be harder for them to own a house. Harder to achieve financial security. Harder to provide for a family. Or to have enough leisure time—not that they can ever really have enough. What about making a lasting marriage? Harder. Paying for a child's college education? Don't even think about it.

They are the twentysomethings, and despite the powerful obstacles in the way of their upward mobility, they are a remarkably buoyant bunch. They, too, believe in the American dream—but in an end-of-the-century version.

For all the tough sledding they see ahead, 89% of young working Americans in their 20s are optimistic about their own careers and financial prospects in the next decade. A stunning 43% are *very* optimistic. Ninety-two percent think they live as well as or better than their parents did at the same age. When they reach middle age, this group expects to live at least as well as mom and dad do in *their* middle age. These are some of the findings of a nationwide poll of 500 21- to 29-year-olds who have been in the labor force at least a year, conducted for FORTUNE by the opinion research firm Clark Martire & Bartolomeo. Admittedly, their upbeat attitude may stem from the fact that they have already found jobs.

Even so, you might be thinking: What are these kids smoking? Sorry, baby-boomers, that was *your* generation. Drugs are a major threat to the American way of life, say 81% of the twentysomethings. They are pretty downbeat on America too. Only 31% think the U.S. will have a more important role in the world in the next ten years, and 55% are pessimistic about the nation's economic prospects over the decade.

So what explains their optimism, their seemingly naive faith in the inevitability of their own progress in a darkening world? The short answer: a different view of the American dream. Only 21% say the most important measure of living the good life is financial success, and a scant 4% believe that the criterion is owning a home. The rest are more concerned with the acquisition of intangibles—a rich family or spiritual life, a rewarding job, the chance to help others, and the opportunity for leisure and travel or for intellectual and creative enrichment. By these yardsticks, the young people figure they'll come out way ahead of mom and dad. They say it will be easier for them to lead interesting lives, to find enjoyment and accomplishment in their work, and to achieve personal fulfillment.

Q: Do you think you live better than your parents did at your age?		Q: When you are middle-aged, do you expect to live better than your parents did at middle age?	
A:	%	A:	%
Better	63	Better	51
About same	29	About same	40
Not as well	8	Not as well	9

SAMPLING ERROR: PLUS OR MINUS 4.5%

Granted, the overall zeitgeist in the U.S. has been moving in this same direction. In a Roper poll taken three years ago, more Americans said leisure rather than work was the "important thing" in their lives, for the first time since 1975. The baby-busters' attitudes are partly a reaction against the workaholism of the preceding generation, but even the aging boomers have been mellowing a bit.

Douglas Coupland, 30, author of the 1991 novel *Generation X*, cynically explains this shift in the national mind-set as the philosophy of *lessness*, "whereby one reconciles oneself with diminishing expectations of material wealth." But most twentysomethings aren't suffering from diminished expectations. Even though they esteem *wa*—the Japanese term for harmony—over wealth, they confidently expect to garner a fair amount of wealth too.

This is the "but not for me" generation—things may be tough all over, but *I* won't be affected. They don't make any connection between their pessimistic outlook for the overall economy and their optimism about their own well-being. For example, they believe that today a family of four needs $57,000 a year on average to live comfortably—that's 37% above the national median. Moreover, they confidently predict they will have a family income of, on average, $76,900 (in today's dollars) when they are 40. The reality is that not many will pull it off: Today only 10% of people filing income-tax returns earn $70,000 or more.

FORTUNE's poll was conducted in late April and amplified with follow-up interviews of 20 of the survey's 500 participants. What follows are some voices of today's young employees, neighbors, taxpayers, and voters. They are not running the country yet, but they will be—assuming they are up to the job—after the baby-boomers get their turn.

What is most reassuring about this generation is their appreciation of the fact that they live better now than their parents did at the same age. They recognize the sacrifices their parents made, and they are thankful for them. Twentysomethings know they grew up in relative prosperity if only because they remember the stories of struggle and hard times endlessly retold by parents who started out with much less. Call it the Mario Cuomo my-father's-bleeding-feet phenomenon.

Jim Malin, 29, a seventh-grade English teacher in Worland, Wyoming, recalls that his father had to quit medical school during

REPORTER ASSOCIATE *Kate Bullen*

PHOTOGRAPHS BY KAREN KUEHN—MATRIX

"We have two kids, two incomes, two vehicles, a nice house," says teacher Jim Malin, who coaches girls' volleyball, as does wife Kim, (second from top right).

the Depression and ended up working 34 years as a postman. Ronnie Nelson, 27, of Greensboro, North Carolina, enlarges on the theme: "Both sets of my grandparents were farmers, and my parents had to grow up through the Depression. My father served in World War II. When I was growing up, compared to them it was a piece of cake." Adds Robby Patterson, 29, a pipefitter from Newport, Arkansas: "I remember my dad telling me about the first time he saw a TV. I grew up with one." And unlike her parents, "at least we don't have an outhouse," says Sabra Taylor, 24, an assistant loan officer from Miller, Missouri.

Moreover, their parents, whose Depression-inspired thrift enabled them to accumulate considerable savings, have the wherewithal to help the kids financially now—paying for college, cars and even condos—or later, by leaving them money. Tim Ring, 29, an engineer at Pratt & Whitney in West Palm Beach, Florida, tells how his father got out of the service in 1960 and left his native Ohio at age 51 to start from scratch in Florida. Says Ring: "It was tough for him, not having a steady income. At that age, I was still living at home, going to college. I had a nice car, could do what I wanted and spend what I wanted."

Ramon Guerra's father was a house painter and now owns a construction company and a bar-and-grill in Portland, Oregon. "My parents struggled for a lot of things and did their best to make sure I didn't have to struggle," says Guerra, 26, a sales supervisor for a regional bakery.

They were very helpful financially. When they were my age, their parents didn't have that luxury. Times were much tougher for the whole family. Five years ago Guerra's parents co-signed his mortgage on a $58,000, three-bedroom house near the home which he grew up in.

Two mysomethings say their lives have also been enriched by opportunities to travel that their parents never had. They are the children of the jet age, late-degree

Q: Compared with your parents, how easy will it be for you to ...

A:	Easier %	Harder %	Same %
Lead an interesting life	45	10	45
Find enjoyment and accomplishment in your work	40	13	47
Move up in a company	38	39	23
Find personal fulfillment	30	16	54
Enjoy a high quality of life	28	27	45
Own a single-family home	26	57	17
Own a business	25	55	20
Achieve financial security	24	54	22
Have enough leisure time	23	50	27
Provide for a family	22	51	27
Have a lasting marriage	20	43	37
Pay for child's college education	14	77	9

ulation genus, economy-class species. Rather than succumbing to societal pressure to find a serious job after college, stick with it, and build a career, legions of these young adults guiltlessly view their jobs as interludes between far-off adventures. Later this year Michael Konyk, 23, plans to quit the University Inn in West Lafayette, Indiana, where he is a sous-chef, to explore either the East or the West Coast, before heading off to work in Ukraine, where his parents came from. "I need change," he says. "I love change. It stimulates me."

Konyk typifies the enhanced sense of freedom, of possibilities, of control over decisions that will shape their lives that characterizes this generation. The men, many of whom have parents or older brothers who were drafted, are grateful that they haven't been forced to go to war. The women came of age in a time of vastly expanded possibilities for them. "I have a lot more choices and more opportunities now than my mom had when she was younger," says Lynette Harkleroad, 23, who works at a Wal-Mart in Altus, Oklahoma. Her mother was a homemaker in Edmon, Pennsylvania, near Pittsburgh.

Dan Quayle notwithstanding, young people feel they are no longer as stigmatized for what were once derided as "alternative lifestyles." Bonnie Rucker, 26, is an unmarried mother of a 6-year-old son. Says she: "Raising a child alone has been hard in every way—mentally, emotionally, and physically. But it's worth it." Rucker clerks at the 7-Eleven in Vinton, Virginia, and her mother, who lives a couple of doors away, watches the boy day or night, depending on Rucker's shift.

Even if their view of their situation today vs. that of their parents at a similar age is realistic, the twentysomethings are astoundingly blithe about the future. Why do they assume they will continue to prosper despite a slower-growth economy? It turns out that they are pinning their hopes on two forces: favorable demographics and education. Births in the United States dropped off a cliff after 1964, the last year of the baby boom, producing fewer new entrants for today's labor market. Says Ronnie Nelson, who operates a four-color printing press at L&E Packaging in Greensboro, North Carolina: "I see plenty of opportunity to move up in the company because of the age of some of the people who are now doing the management jobs and upper-level jobs. They are getting close to retirement age, and there aren't many baby-boomers to replace them. I'll have a pretty good leg up on the people they hire after me."

In their eyes, education is an even more powerful propellant for upward mobility. Many young people stayed in school longer than their parents did—31% of our sample completed some college, typically receiving two-year associate degrees from community colleges. Another 33% hold four-year or graduate degrees. They speak of learning both as the key to economic advancement and as an enriching influence that opened new realms of lasting interest for them. Michael Konyk minored in anthropology at Purdue University while equipping himself to rattle those pots and pans with a degree in consumer food science. "College really opens your mind," he says. "I was granted an education, and my parents were really supportive. They let my mind grow and wander. It's really rare that I'm bored."

DESPITE the lackluster economy, youngsters who have carefully eyed the job market and trained themselves for the workplace are taking advantage of what Peter Morrison, a demographer at Rand Corp., calls "the pervasive shortage of skills." Wendy Leonard, 22, made sure to take business and computer courses when she was in high school in Wake Forest, North Carolina. There she mastered Lotus 1-2-3 and several word-processing systems, and learned to program in Cobol. "I knew that computers were what I needed," she says. Leonard recently landed a clerical position at Lambert's Cable Splicing Co. in Henderson, North Carolina, which installs cable for the phone company. "There are a lot of jobs out here, and we don't have the qualified people to fill them," she says.

Bill Bommer, 25, who teaches organizational behavior at the Indiana University business school, says, "I ask my students to imagine if they didn't go to college, what they'd be doing—and nobody can even imagine it." But the reality is that even with only a high school education, twentysomethings believe they can reach positions of considerable independence and responsibility by dint of conscientious effort. While she was in high school, Lynette Harkleroad

Konyk plans to quit his job and travel: "I need change. I love change."

Whatever the Nielsens do, "We won't be any happier than we are now. Buying things isn't going to make us happy."

worked part time at the McDonald's in Leechburg, Pennsylvania. When the Air Force stationed her husband, Jeffery, in Altus, her letter of recommendation from the fast-food chain got her a job at Wal-Mart, where she has worked for the past four years. She started out as a checker, then became a Universal Product Code clerk—scanning items, making sure the prices on the labels were right. Two years ago she was promoted to department manager in charge of greeting cards.

As they push to exceed their parents' attainments, Americans are more likely to return to school later in life. During the 1980s, U.S. colleges and universities saw an influx of so-called nontraditional students older than the usual 18- to 24-year-olds. Harkleroad will likely be one of this crowd. She plans to use her Wal-Mart profit sharing—which could be worth about $10,000 when it fully vests in three years—to pay for an 18-month or two-year degree, then to become a medical secretary. Similarly, Bonnie Rucker is thinking about going back to school to study to be a paramedic: "I like the business field, but there's only so far you can go with it," she says. "I want to get into a worthwhile position—something that makes me feel good about myself." She hopes to attend a community college in Virginia for the training she needs.

IF MORE EDUCATION and better demographics don't fully explain the under-30s' sanguine view of the long run, then perhaps the explanation is heredity. As Alexis de Tocqueville discovered a century and a half ago, a mania for self-improvement is an integral part of the collective American psyche. "Without optimism, you don't have anything," says Bonnie Rucker, who currently earns $6.05 an hour.

That optimism is reinforced by their experience in the labor force. The under-30 set is surprisingly content with their work: 80% are satisfied with the progress of their careers so far, 81% consider themselves very or extremely productive, and 62% have already discovered what they want to do for a career. An impressive 85% say their attitude toward their jobs has stayed the same or become more positive since they began working full time. When asked how they feel on a typical day at work, the No. 1 answer was "respected" (cited by 86% of those polled). Other top responses: "happy" (85%) and "accomplished" (82%). Only 19% felt "exploited" or "depressed."

The most important aspect of a job is "a company or supervisor who treats you with respect as an individual," followed by job security. Security probably ranks so high because the young people entered the work force during a time of redundancy, recession, and restructuring. Some of Tim Ring's acquaintances at Pratt & Whitney, which has a lot of defense business, were laid off as a result of Pentagon cutbacks. Ring is well aware that he was spared largely because he works on the space shuttle rather than a military contract.

"It's hard to get a full-time job here," says Lisa Guagliano, 22, who works two night shifts a week as a nurse trainee at Millard Fillmore Hospital in Buffalo. "They've cut a lot of positions and have lots of part-timers. It's really hard to get into the department you want." Positions are filled based on experience and seniority, and Guagliano must compete with legions of nurses in their 30s and 40s. She wants to specialize in cardiology and hopes to get the training and experience she needs from a stint in the Army as soon as she passes her licensing exams early next year: "I'm young—what's four to six years?"

Typical of many baby-busters, Guagliano wants a career where she can make a contribution to society. She decided to become a nurse because she was hospitalized at age 3 for kidney problems caused by exposure to toxic waste when her family lived near

Love Canal. She was in and out of hospitals until she was a teenager, and she says, "Medicine looked like it would be really rewarding. Nurses saved my life on several occasions."

Layoffs at big companies are encouraging more and more young workers to gravitate to smaller outfits. A recent survey of college students by Right Associates, a Philadelphia consulting firm, found that 32% prefer to work for companies with 100 or fewer employees, vs. 23% in 1990.

Consider the case of Ronnie Nelson, the printing press operator at L&E Packaging, which makes tags and labels for clothes such as Levi's jeans and Lacoste shirts. He worked for seven years in the same job at a division of giant Avery Dennison, the office products manufacturer that went through a big restructuring last year. Four months ago he followed his former boss to L&E. "It's been a pretty bad situation in the printing industry," he says. "A lot of companies have folded—and a lot have so much overhead they can't make the profit they need." He says his positive attitude toward work "has 100% to do with" being at a smaller, more competitive concern.

Q: The most important measure of living the good life is . . .

A:	%
A rich family life	33
Financial success and security	21
A rich spiritual life	16
Having a rewarding job/career	10
Helping others	6
The opportunity for leisure and travel	6
Owning a home	4
Intellectual/creative enrichment	3

On average these folks work a 45-hour week, and they'd like to cut that back to 39. Only 18% say they work harder than their parents did. But if they are really so upbeat about their work, why do they shrink from putting in long hours? Isn't work supposed to be the "hedonism of the middle class," as essayist Barbara Ehrenreich wrote in *Fear of Falling*? Not necessarily. Twentysomethings want the job to be satisfying but not to dominate their existence. "I'm not going to work my life away," says Lynette Harkleroad. "My family and I come before work does. I'll be at work when they need me, but I'm not going to die there."

Sure, work can be fun, but so is softball. A lot of young people sound like Ronnie Nelson. In one breath he says, "The easiest way to have an interesting life is to be happy with what you do." Then in the next, "I play a lot of golf and softball. I don't have to have the extra money to make my life interesting."

To the younger generation, "having a good time" is a legitimate goal. Four nights a week Lisa Guagliano hangs out at the Pleasure Dome, a huge bar and mecca for the younger crowd in Niagara Falls. There she competes in bikini contests or dons a Velcro-covered suit and hurls herself at a Velcro wall where, miraculously, she sticks. She peels herself off and hops into a translucent spaceball, a plastic sphere that spins and simulates the giddy feeling of space flight. Sometimes, before she heads to the Dome, she goes bungee jumping, bouncing on an elastic cord while hanging over a cliff near Niagara Falls. "It's the world's biggest thrill," she says. The biggest? "Well, pretty close."

"I see just how brilliant Americans can be," says Tim Ring, a test engineer for the space shuttle.

WHEN THIS GROUP is asked which is more important to them, their personal lives or their careers, the former wins hands down—64% to 36%. Not surprisingly, one-third consider a rich family life as defining the good life. They herald a back-to-basics movement: Once again, marriage is for keeps. Although they acknowledge that it's gotten harder to make a union endure in a high-pressure, two-paycheck world, 94% expect to get married (or already are) and 87% plan to be married only once. And they want to spend plenty of time with their kids. Many saw their parents break up when the divorce boom began in the 1970s. Work was all to a generation that knew what it was like to be out of work. Family is all to a generation that knows what divorce is.

They see marriage more as a source of companionship and support and less as a response to economic necessity or societal pressure. "My parents didn't have a lot of common interests," says Beth Nielsen, 29,

who lives with her husband, Todd, a lawyer, in Creston, Iowa. "My dad was a sportswriter for the Creston *News Advertiser*, gone four or five nights a week. He worked so much that when I was younger, I don't remember taking family vacations together." Beth would like to have three children and thinks that the holidays and three-month summer vacations she enjoys as a substitute grade-school teacher will make it easy for her to spend time with them.

In contrast to her mother, who married at 19, Beth was 27 when she wed, and she and Todd share a number of interests. Both are laid back and enjoy golf, tennis, and jazz. "We're very much alike," she says. "When my parents married, I don't think people thought about finding someone who was like themselves. In the long run our relationship will be much richer."

Buying a home has always been the natural next step for married couples starting a family. It still is. Jim and Kim Malin, who are both English teachers, together earn about $49,000 annually. They have two daughters, Maggie, 6, and Katie, 2, and in 1990 they bought a $70,000 house in Worland, Wyoming. This year Ronnie Nelson and his wife, Kelly, plan to break ground on a three-bedroom ranch-style house on an acre of land in Greensboro, North Carolina. Total cost: $84,000.

Q: How optimistic are you about your career and financial prospects in the next ten years?

A:	%
Optimistic	89
Pessimistic	11

Q: How optimistic are you about the nation's economic prospects in the next ten years?

A:	%
Optimistic	45
Pessimistic	55

Because Americans are getting married later and later—45% of men and 31% of women are still single at 29—some are tempted to buy a house before tying the knot. Tim Ring, who is single, is trying to buy a house and needs to come up with a $10,000 down payment to qualify for a $100,000 mortgage. He has money put by but figures he'll have to tap into the company savings plan, which is really meant for retirement. Like 57% of his age cohort, Ring thinks it will be harder for him to own a single-family home than it was for his parents. After all, they bought their first house with $250 down.

But owning a home is no longer the cornerstone of the American dream. House lust smacks of the sort of conspicuous materialism that baby-busters dislike. Though renters Beth and Todd Nielsen plan to buy a house once Beth gets a full-time position, "no matter what we buy or whatever we do, we won't be any happier than we are now," she says. "If we're not happy now, buying those things isn't going to make us happy."

On balance, the twentysomethings sometimes appear to represent a sort of existential cocooning or failure to engage the real world. They have never been up against a big challenge, like a war. The Persian Gulf conflict is already fading from memory: Only 31% of this generation say that global political and military unrest is a big threat to the American way of life.

"People my own age kind of make me nervous," says Jim Malin. "We haven't had our moral fiber tested as much as the people who came before us. We never lived through a draft. What would we do? Would we turn and run?" His father served with the Navy in Manila during World War II; his mother fled the Netherlands when her hometown was destroyed by the Nazis; one of his brothers fought in Vietnam.

Q: Have you discovered what you want your career to be?

A:	%
Yes	62
No	38

Q: How satisfied are you with the progress of your career so far?

A:	%
Satisfied	80
Dissatisfied	20

Unlike the Sixties youth movement, which cohered around an us vs. them view of adults, today's young people have an odd and disturbing disdain for their own generation, perhaps revealing an insidious sense of discomfort or uncertainty about their own beliefs. For instance, consider their views on their own work ethic. They admit,

Nurse trainee Lisa Guagliano competes in bikini contests at this bar. Her mom, Jean, drives her home.

Says pressman Ronnie Nelson: "I see plenty of opportunity to move up in the company."

a little self-righteously, that their career success takes a back seat to their personal fulfillment, but now listen to their voices as angst-filled generational self-criticism sets in. "I'm not really sure about the work ethic of people my age," says Jim Malin. "Today, if you ask someone to take out the garbage, it's like asking them to swim across the Atlantic." Adds Ramon Guerra: "Everyone wants to be there on payday but doesn't want to work all week."

Q: How likely are you to be working for your present company in five years?

A:	%
Likely	65
Not likely	35

Q: How likely are you to be laid off in the next five years?

A:	%
Likely	15
Somewhat likely	29
Not likely	56

Wayne's World, the popular film based on a series of TV sketches, may speak for some of these folks. Wayne and Garth are 20-ish and still live with their parents, amusing themselves while failing to "get a life." Wayne collects hairnets and name tags from his various short-lived factory jobs. Now switch from *Wayne's World* back to the real world and listen to Ramon Guerra: "Most of my buddies from high school haven't changed a lot—they go from job to job and wait to party on the weekend. Just making enough money to pay the rent and get by, not too worried about the future. I'm pretty much the only one in my circle who's married with children."

Nor is the under-30 set particularly interested in keeping up with the news. A 1990 Times Mirror study, *The Age of Indifference*, found that this generation "knows less, cares less, and reads newspapers less" than any generation in the past five decades. Only 30% of 21- to 34-year-olds said they "read a newspaper yesterday" and 41% said they "watched TV news yesterday."

Q: What is a big threat to the American way of life?

A:	%
Drugs	81
Troubled educational system	74
Damage to the environment	73
Crime	72
America's economic malaise	52
Foreign economic competition	45
Racial problems	38
Global political and military unrest	31

Says Malin: "I'm afraid that people my age and younger seem real apathetic about what's going on in the world. A lot of them don't ever look at the front page of the newspaper and kind of forget what's going on outside of their lives."

Their attitudes toward national and world affairs spring from personal experience and direct observation. "I have a hard time understanding spending billions and billions on defense and then having education cutbacks," says Ronnie Nelson, whose wife, Kelly, teaches disabled children.

Tim Ring belongs to the 8% sliver who are very optimistic about the U.S. economy, and his attitude springs directly from his experiences at work. He earns around $30,000 a year at the Pratt & Whitney plant in West Palm Beach testing and developing high pressure oxygen turbopumps for the space shuttle's main engine. "I see the latest in American technology in my job. I deal with engineers who have graduated from the top universities across the nation. I just see how brilliant and knowledgeable Americans can be when they want to be. I don't see the Japanese sending astronauts up into space."

But certain laments came up again and again in the interviews: America is going downhill. We spend too much on defense,

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not enough on education; too much on foreign aid, not enough on domestic problems like homelessness and hunger.

"Bush hasn't done a very good job—he's more interested in foreign affairs than here where we're at," says Bonnie Rucker. "People are going hungry in our own country." Echoes Lynette Harkleroad: "We give a lot of money to foreign countries for stupid reasons, and we don't take care of those problems in our own country." These people can see homeless families and drug sales in their own towns, but abstract issues such as foreign trade are hard to grasp.

Twentysomethings' disdain for their own generation is exceeded only by their antipathy toward the baby-boomers, whom they see as over-the-top materialists and remiss parents. For the most part, busters are not afflicted by what novelist Coupland called "boomer envy." Only 24% say that status or prestige is a "very important" aspect of a job. More attribute high importance to "working with people you like" (70%) than to salary (58%).

Ronnie Nelson, like 78% of his age cohort, says he wouldn't want to be like the baby-boomers: "The only thing the people I know in that generation—like my brother, Mike, who's 39—seem to be concerned with is having money. Not so much with being happy with what you do—just making the money. I really don't want to wake up in the morning and say, 'I don't want to go to work today, but the money's really good.' I want to say, 'I'm ready to go to work, and the money's decent.'"

This is a generation that values solid family lives, recognizes they are the beneficiaries of parents who had it tough, and feels they are treated with respect on a typical workday. Their heads are a little mixed up maybe, but their hearts are sure in the right place.

Q: How do you feel about the baby-boomers?

A:	%
Would like to be like them	22
Would not like to be like them	78

"My parents struggled and did their best to make sure I didn't have to," says Ramon Guerra.

THE ECONOMY COMES BACK

Leaving behind three years of stagnation, recession, and halting recovery, the economy is finally entering a period of recognizable expansion. Growth will continue over the next 18 months at a sustainably moderate pace. ■ *by Vivian Brownstein*

ALMOST unnoticed, the economy passed a landmark this spring. After a year of painfully slow growth, the nation's output of goods and services surpassed the last peak, reached in the summer of 1990. Whatever label gets attached to the previous 12 months of stopping and starting, only one word describes what is happening now. Welcome to *expansion*, 1990s style. It will be with us for at least the next 18 months.

Characteristic of the new decade, the mood remains subdued, smacking of disappointment, even though most things economic are going better than Americans generally expected. FORTUNE estimates that real GDP increased at a 2.5% annual rate during the first two quarters of the year, compared with the less than 2% we thought likely six months ago. The extra boost has helped ease the worst of the pervasive gloom. Consumers still register a low level of confidence, according to surveys by the Conference Board and the University of Michigan, but they are considerably less anxious than before.

Executives have also turned more positive in their outlook, if not exactly exuberant. Surveying 350 CEOs of fast-growing companies—naturally among the most upbeat—Coopers & Lybrand found that more than half still expect weak market demand to limit their expansion. But the number who were concerned had declined sharply in the past few months. And Joseph Duncan, Dun & Bradstreet's chief economist, reports an uptick of optimism in the 2,000 companies D&B surveys, especially manufacturers.

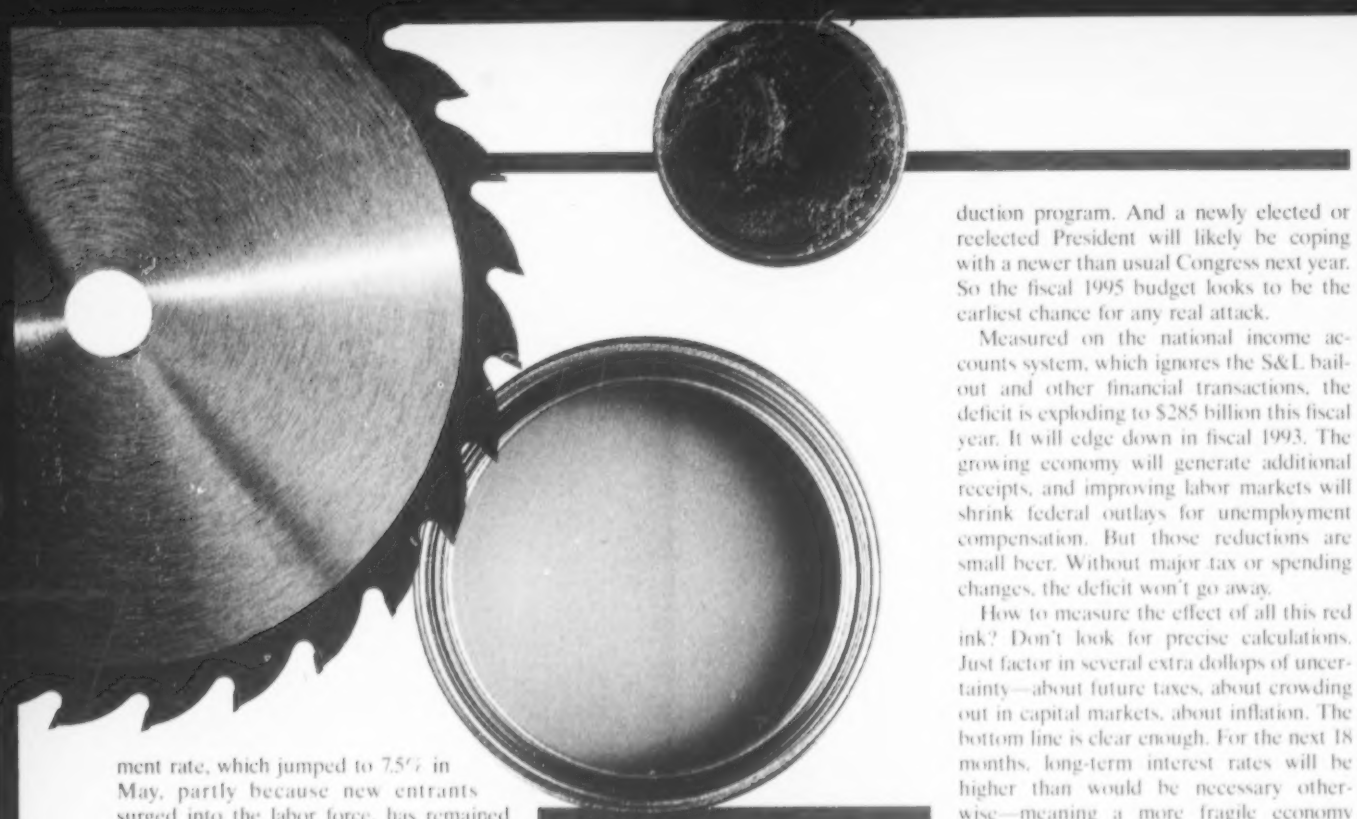
Most significant, attitudes about hiring have begun to change. FORTUNE's outlook for the next 18 months is predicated on businesses shaking off their fears and getting on with their lives. Jobs are a critical element in this process, and new reports confirm what we've been expecting. After two years of declines, employment began picking up at the start of the year. Many businesses realize they have to bite the bullet—employ more people or lose business to competitors. Factory workers are putting in longer hours than at any time since 1966 and are also racking up an almost unprecedented amount of overtime. Mitchell Fromstein, president of the Manpower Inc. temporary-help firm, says his latest quarterly employment survey indicates a sharp increase in permanent hiring plans among companies in nearly all industries and all regions.

We expect business to add just over two million employees, or 1.8%, during 1992 and again in 1993. But the gain is considerably less than the 3.5% average annual increase of the early 1980s. Restructuring and downsizing will continue to limit job growth for the next year and a half—and beyond. That's one reason consumers' confidence remains clouded.

Without the robust job creation that has fueled other expansions, growth in the economy will necessarily be moderate. FORTUNE expects real GDP to increase 2.1% this year, vs. last year's decline of 0.7%. Next year will show a 3% increase. Deconstructing these rates into the changes economists use to indicate trends, the economy will be moving along from quarter to quarter at a 3.3% annual rate during the second half of this year as businesses begin to restock shelves and catch up on purchases of equipment postponed during the recession. Part of the extra take-home pay that wage earners have pocketed since income tax withholding was reduced in March should find its way into cash registers too, but consumers satisfied some of their pent-up demand in a spending spree earlier this year. Real GDP will settle into a 3% growth pattern during 1993.

The increases in output will gradually tighten up labor markets. The unemploy-

PHOTOGRAPHS BY ELIZABETH WATT



ment rate, which jumped to 7.5% in May, partly because new entrants surged into the labor force, has remained lower than during the last recession. It will edge back down to 7% before the end of the year and drop nearly another percentage point during 1993.

While almost every sector will contribute to economic growth during the next 18 months—with the federal government the only significant exception—business investment will add the most strength. Businesses will remain cautious, but profits are improving. Companies have every incentive to spend for the new equipment and modernized facilities that will help them keep their competitive edge. Purchases of computers, industrial machines, heavy trucks, and the like will increase at an 8% annual rate during the next year and a half, vs. a decline of 1.5% over the past six quarters. Business construction will bottom out by next mid-year.

Homebuilders are expected to start nearly 1.4 million new units next year, up from a bit over 1.2 million in 1992, and homeowners will be spending more for renovations and additions to their old dwellings. Even state and local governments are in good enough shape to increase purchases of goods and services a bit. The volume of exports will continue to grow, by a 4.5% annual rate, though month-to-month changes will continue to be volatile. But the economic expansion will boost imports also. So the trade deficit won't improve.

The federal government will leave its mark on the economy in many ways, almost none of them positive in the short run. For example, defense cutbacks are likely to shave 0.7 of a percentage point off the growth in real GDP during the next year and a half. And consumers will get a small shock April 15. Lower withholding rates now mean some people will have to pay more taxes than usual, and others will get smaller refunds than they had counted on.

The continuing problem of the federal deficit won't get fundamentally better. FORTUNE assumes no important changes in policies during the time our forecast covers. With the election coming up, Congress is most unlikely to produce a major deficit reduction program. And a newly elected or reelected President will likely be coping with a newer than usual Congress next year. So the fiscal 1995 budget looks to be the earliest chance for any real attack.

Measured on the national income accounts system, which ignores the S&L bailout and other financial transactions, the deficit is exploding to $285 billion this fiscal year. It will edge down in fiscal 1993. The growing economy will generate additional receipts, and improving labor markets will shrink federal outlays for unemployment compensation. But those reductions are small beer. Without major tax or spending changes, the deficit won't go away.

How to measure the effect of all this red ink? Don't look for precise calculations. Just factor in several extra dollops of uncertainty—about future taxes, about crowding out in capital markets, about inflation. The bottom line is clear enough. For the next 18 months, long-term interest rates will be higher than would be necessary otherwise—meaning a more fragile economy and less growth.

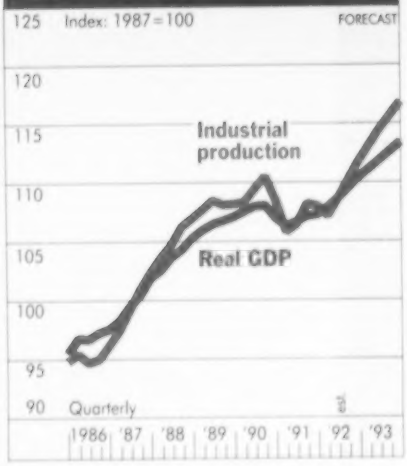
Inflation is likely to be the major disappointment in the year ahead. FORTUNE expects the rate as measured by the consumer price index to average 4.3% next year and move up to 4.5% by year's end. The Blue Chip consensus expects a smaller increase, to a rate of 3.7% by the end of 1993. And judging from comments by Chairman Alan Greenspan and other members of the Open Market Committee, the Federal Reserve Board appears to expect the rate to *drop*. Even inflation hawks on the committee have joined the reassuring chorus.

When central bankers tell you not to worry about inflation, something is amiss. Profits are improving, but not enough to lift margins anywhere near the levels business enjoyed in 1987 and 1988 before the recent stagnation-recession period squashed them. It will be hard to fatten margins by cutting costs. The string has run out on lower interest expenses, and wage rates will climb faster as labor markets firm up. So companies will feel pressed to raise prices. *continued*

THE OUTLOOK

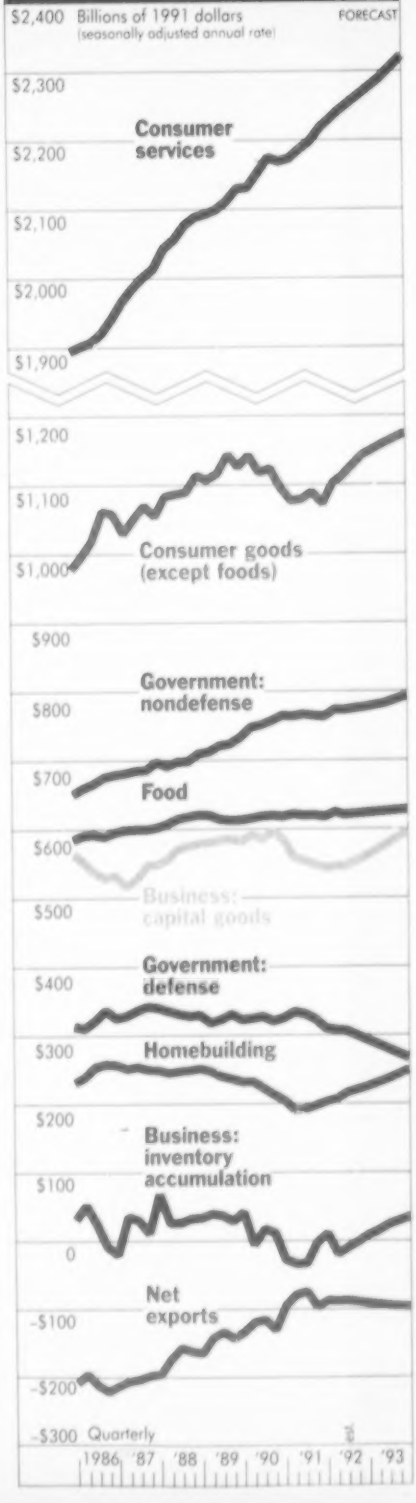
	1992	1993
Real GDP percent change	2.1%	3.0%
Consumer prices percent change	3.1%	4.3%
Unemployment rate end of year	7.0%	6.2%
Operating profits percent change	19%	14%

GROWTH

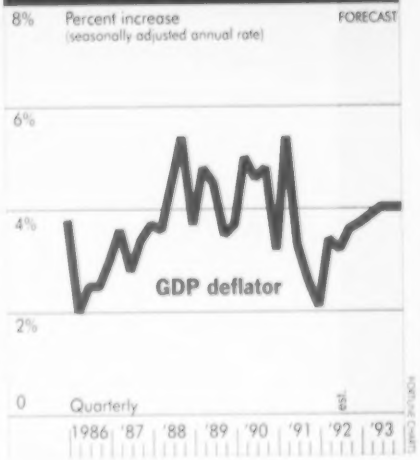


More spending for capital equipment, consumer goods, and homebuilding materials will push up industrial production. Exports will continue to help too, but imports will grow a touch faster.

GDP COMPONENTS



INFLATION



They'll have more latitude to do so. Many foreign companies are reluctant to go after more U.S. market share in a year charged with protectionism and are lifting prices. Demand will be strong enough to allow business to increase margins for the first time since early 1989, when the economy slowed to a crawl. The Fed's sanguine talk about lower inflation is no doubt aimed at making believers of the bond markets. It will continue to fall on deaf ears, and for good reason.

As it becomes clearer that inflation isn't disappearing, the Fed will step in to prevent more serious acceleration than we've outlined. It will begin to nudge up short-term interest rates before year-end. The federal funds rate, currently 3.75%, will move up to 5% or so by the end of 1993. Long-term rates won't move much if at all. Instead, the unusually wide premium over short rates will narrow.

Exciting sure isn't the right word to describe the outlook—try slow and plodding instead. But that's not a disparagement. A period of sustainable moderate expansion is just what the doctor ordered for the U.S. It will provide jobs for most of those who want them. It will keep managers hunting for ways to operate more effectively. And let's hope it will give policymakers time to turn to longer-term problems, such as education and health care, without the distraction of trying to shore up a stumbling economy. Best of all, it will put the recession firmly behind us and restore confidence.

■ **CONSUMER SPENDING: Slow but adequate.** Enough jobs and income will be generated to lift outlays at a 2.5% annual rate through the end of 1993—the best since 1988. Purchases of new cars and light trucks will soak up most of the spending power, though. People will have to crimp on other purchases, since their debt loads remain heavy and they will be paying off old loans even as they finance new cars. Excluding motor vehicles, spending will grow at a sluggish 2% rate through the end of next year. That will restrain overall economic growth, but it will be enough to keep the expansion going.

■ **CAPITAL SPENDING: New vigor for equipment.** Business outlays for capital equipment will grow at an 8% annual rate, providing strong support to the economy. Demand will be especially good for factory-floor machines that lift productivity. These include computers, one reason real spending on them will also rise. But auto-rental companies won't buy as many cars as they did last year because the Big Three have cut back on special fleet deals. Construction equipment and furniture will continue to suffer from the debacle in commercial construction. The huge excess of office, retail,

and hotel space will drag down ovefall growth in capital spending, as it has for the past three years.

■ **HOMEBUILDING: More.** The housing market improved a lot over the past year, helping to keep the economy moving. Further improvement is in store as growing numbers of potential buyers realize they won't lose their jobs and will, in fact, get small raises. These buyers face attractive mortgage rates and affordable homes. Prices have been rising modestly, but not enough to damp demand; to the contrary, the trend should spur lookers to buy in advance of further increases. It should also shore up the idea among buyers that housing is a good investment. Strong sales will in turn stimulate new building. Single-family starts will top one million in 1992 and reach nearly 1.2 million in 1993, vs. a dismal 1990 and 1991 when they dropped below 900,000 on average. Firming prices and eased job fears will also encourage current owners to spend more on remodeling, a huge market that accounts for more than a quarter of all dollars spent on residential building. In contrast, apartment construction will languish at a low level because many units already on the market remain vacant.

■ **GOVERNMENTS: Chilling out.** The federal deficit won't get any bigger during the next fiscal year, thanks to the expansion. Rising taxable incomes and corporate profits will boost receipts by 8%, vs. less than 2.5% this year. The deficit will actually shrink a bit except for payments associated with deposit insurance. Part of the expected bulge in those payments won't occur until next year, because of delays in closing out some failed thrift institutions.

The pressures of the election year are also forcing state and local politicians to keep a lid on tax increases and spending—a break for consumers, who lost spending power to last year's enormous tax hikes. But neither will governments provide much stimulus through jobs and wages. Instead they are getting their operating deficits under control. Public investment in infrastructure will rise smartly, however, because states and localities have already borrowed heavily to finance the projects.

■ **FOREIGN TRADE: A pause.** Despite the global slowdown, export volume will increase steadily over the next six quarters at about the same 7% rate of the past six. Latin American and other developing countries are replacing Europe and Japan as the major sources of growth. The deficit on trade in goods and services has shrunk from a peak of $143 billion in 1987 to a relatively small $25 billion annual rate recently, but now it will hold at about that level. U.S. companies and their foreign suppliers are so intertwined these days that just about every increase in exports pulls in more imports. And even though some producers continue to recapture domestic market share from foreign competitors, imports will increase as domestic demand improves.

■ **INTEREST RATES: The end of the line.** The next turn in short-term rates is likely to be up. The three-year drop in the federal funds rate, from a peak of nearly 10% to 3.75% lately, has run its course. The slow growth in M2 so far this year has frustrated the Federal Reserve. The money aggregate has fallen far short of the growth in nominal GDP (real growth plus overall inflation), undermining M2's role as a policy guide. Nevertheless, as nominal GDP growth heads above the M2 target range for 1992, the Fed will tighten anyway. Look for some small moves by year-end.

The increase in short-term rates should continue through 1993 as business expands borrowing for inventory and other working capital needs. But less than two percentage points of the past decline will be retraced by the end of the year. Long-term yields, such as the 8.5% on corporate bonds now, should stay about where they are. That will leave them about four percentage points above the 4.5% consumer price inflation we expect.

■ **WAGES, PRICES, AND PROFITS: Going up.** Wage rates will rise about 3.5% this year, not terrific but enough to generate real income gains. Next year's 4.5% increase, however, will just keep pace with prices. Hourly labor costs will advance 5% in 1992, vs. 4.5% in the past year, spurred by the rising cost of health and other benefits. But productivity gains, especially in manufacturing, will limit the bite. Cost cutting combined with greater leeway to raise prices will lift corporate operating profits 19% this year and 14% in 1993.

Consumer prices will increase some 3.1% in 1992. Measured by the broader GDP deflator, the rise will be a bit less. Next year, however, consumers will pay 4.3% more for the market basket of goods and services that make up the CPI. The deflator, which nets out import prices, will accelerate too, but to 4% next year. F

CHIEF ECONOMIST *Vivian Brownstein*
STAFF ECONOMIST *Joseph Spiers*
RESEARCH ASSOCIATE *Lenore Schiff*
FORTUNE's forecast is produced by this magazine's economists based on our own economic model.

INSIDE AMERICA'S BIGGEST PRIVATE COMPANY

Cargill, the grain trading dynasty, faces tumultuous change: a nonfamily CEO and a move into higher-value businesses. Should it consider going public?

■ *by Ronald Henkoff*

IF YOU ARE what you eat, then part of you comes from a 127-year-old company you may never have heard of. Cargill Inc., America's largest privately held corporation, is hardly a household name, but it touches nearly every household. Chances are good that it supplies the flour in your bread, the oil in your salad dressing, the concentrate in your orange juice, the beans in your coffee, the sweetener in your soft drink, the malt in your beer, the peanuts in your peanut butter, the cocoa in your candy bar, the salt on your table, and the steak on your barbecue.

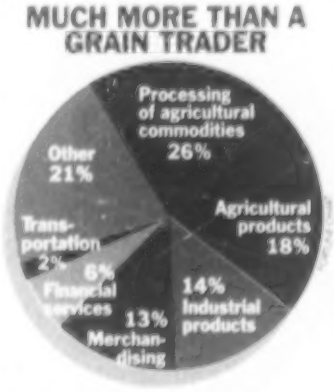
Cargill is enormous. With revenues last year of $49.1 billion, this giant commodities merchant is America's second-largest diversified services company, topped only by AT&T (1991 sales: $63.3 billion). Cargill's 47 businesses employ 63,000 people in 54 countries on six continents. As a privately held enterprise, Cargill is in a class by itself, nearly triple the size of America's next largest private company (see list).

In a sharp break with precedent, the normally secretive managers of Cargill have allowed FORTUNE an extensive look inside their mysterious multinational. The company and the two families who own it are in the midst of momentous changes. When Chairman and Chief Executive Whitney MacMillan, a great-grandson of the founder, retires in three years, none of his relatives will be primed to succeed him. For only the second time in Cargill's long history, leadership (though not ownership) will pass to nonfamily managers.

Over the years this unusual company has prospered by sticking with values that too many large public corporations have shucked off. At a time when most chief executives are obsessed with next quarter's earnings, Cargill's managers have a strategic vision that extends well into the next century. While other companies struggle with too much debt, Cargill boasts a balance sheet so conservative it can only be called old-fashioned. While employees at many FORTUNE 500 companies are angry at their bosses and disenchanted with their jobs, Cargill workers are so unabashedly enthusiastic that their sentiments border on boosterism.

The essence of Cargill's philosophy is patience. Take calculated risks, reinvest gains, and hang on for the long haul. Cargill often buys companies in downcast industries—like red meat, steel, and fertilizer—and then gradually turns them into moneymakers. Its measured approach doesn't produce many supernovas, but it is hard to argue with its record.

Cargill earned just $351 million in 1991, a paltry return of less than 1% on sales. Preliminary calculations for fiscal 1992, which ended May 31, show that profits surged 28% to $450 million. But even that record figure won't do much to improve the earnings ratio. Not to worry, says chief financial officer Robert Lumpkins: Commodities companies make money by rapidly turning over their inventories—15 times per year in Cargill's case. Also, the company's conservative accounting practices—including accelerated depreciation of assets—make the bottom line unnaturally thin. This year, predicts Lumpkins, Cargill will generate about $1.1 billion in cash flow, most of which will be reinvested or used for acquisitions. Over the past 50 years, net worth (or shareholders' equity) has grown from $11.6 million to $3.6 billion, a compound annual rate of 12.2%. The company remains on track toward its longstanding goal of doubling net worth every five to seven years.



How Cargill allocates its net worth

Cargill takes its perseverance abroad, to places as volatile as Brazil, as remote as Uzbekistan, and as xenophobic as Japan. It is the world's biggest grain trading company, the No. 1 processor of cocoa in Europe, the largest pet food producer in Argentina, and the first foreign company to set up an animal feed plant in Japan. This year in Brazil, Cargill will crush 1.5 million tons of oranges into frozen concentrate. The company's ships will carry the chilled citrus in bulk to Europe, North America, and Japan, where it will be reconstituted into 4.5 billion glasses of juice.

Most of Cargill's revenue still comes from trading. It handles 25% of America's grain exports, and it buys, sorts, ships, and sells just about everything else that comes out of the earth, including coffee, sugar, cotton, crude oil, hemp, and rubber. But the company now earns most of its profits from turning those commodities into something else. You wouldn't know it from a visit to the supermarket, but Cargill is America's third-largest food company, right behind

REPORTER ASSOCIATE *Ricardo Sookdeo*

CEO MacMillan at Minnetonka headquarters

PHOTOGRAPHS BY PETER SIBBALD

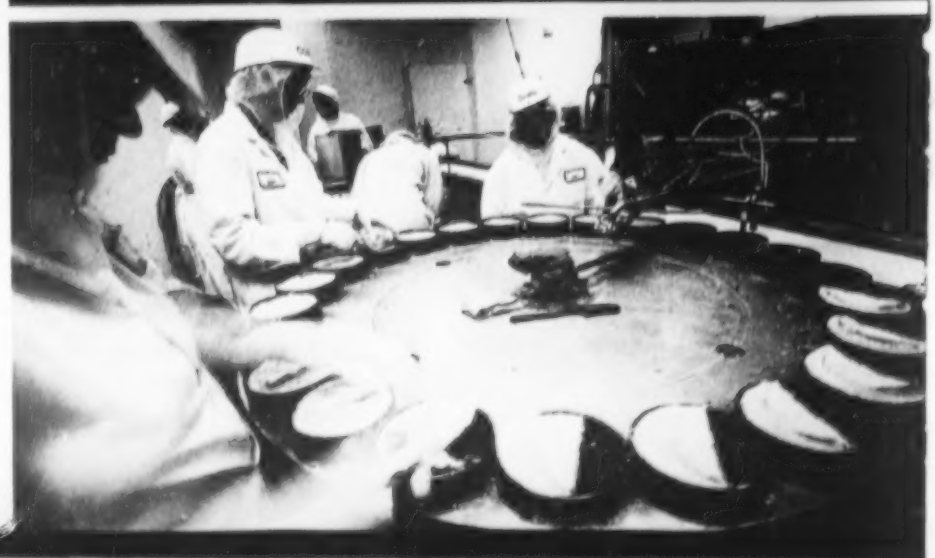
Philip Morris (owner of Kraft General Foods) and ConAgra, according to *Food Processing* magazine. Cargill doesn't make breakfast cereal or cake mixes or frozen dinners, but it does process the ingredients for the companies that do.

Its North Star Steel subsidiary is the eighth-largest producer in the country, supplying auto parts to Chrysler and engine parts to Boeing. Cargill Investor Services, based in Chicago, is a leading player on commodities exchanges worldwide, especially in the booming financial futures market, trading bond, currency, and stock-index contracts for blue-chip banks and companies.

FOUNDED BY William Wallace Cargill, the second-oldest son of an immigrant farmer, the company is still owned and managed by his descendants—the Cargills and MacMillans. These two Scottish-American clans, joined by marriage in 1895, are very rich (collectively worth more than $4 billion) and very reticent. Their executive office—a French-style château—is ensconced in an evergreen forest in Minnetonka, a quiet, old-money suburb of Minneapolis. The company produces no corporate advertising and discloses only a modicum of financial information—even to its bankers.

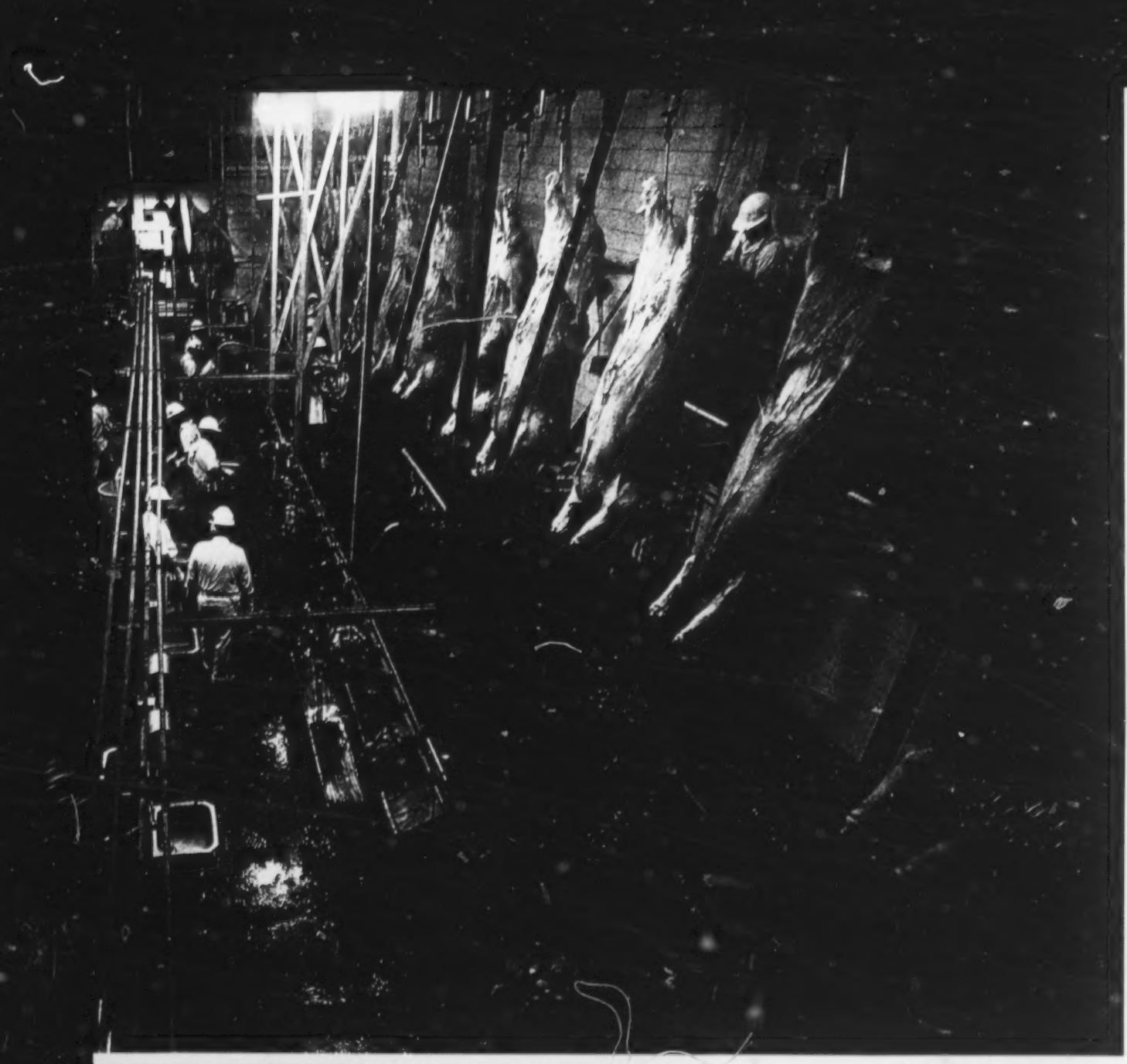
Nowhere in America is there a company so large that has remained in family hands for so long. Most home-grown firms fall apart after the death of the founding father; Cargill is still in the stirps after *five* generations. Think about it: The du Ponts no longer run Eleuthère du Pont's chemical company, the Fords no longer have a majority interest in Henry's automaker, and the Rockefellers bowed out of Standard Oil long ago—they don't even own all of Rockefeller Center.

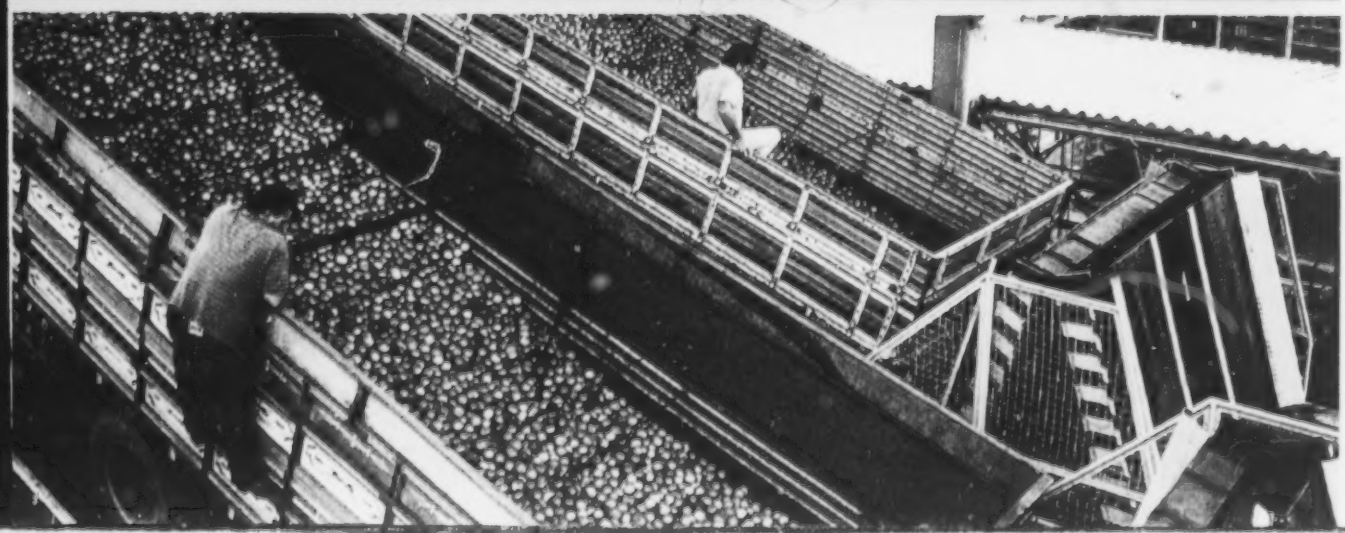
The Cargill saga began in 1865 in the frontier boomtown of Conover, Iowa, with a single grain warehouse and a singularly ambitious young businessman. W. W. Cargill, as he was known, was a middleman. He bought wheat from farmers, arranged for it to be sold in big urban markets, loaded it onto trains, and earned a commission for

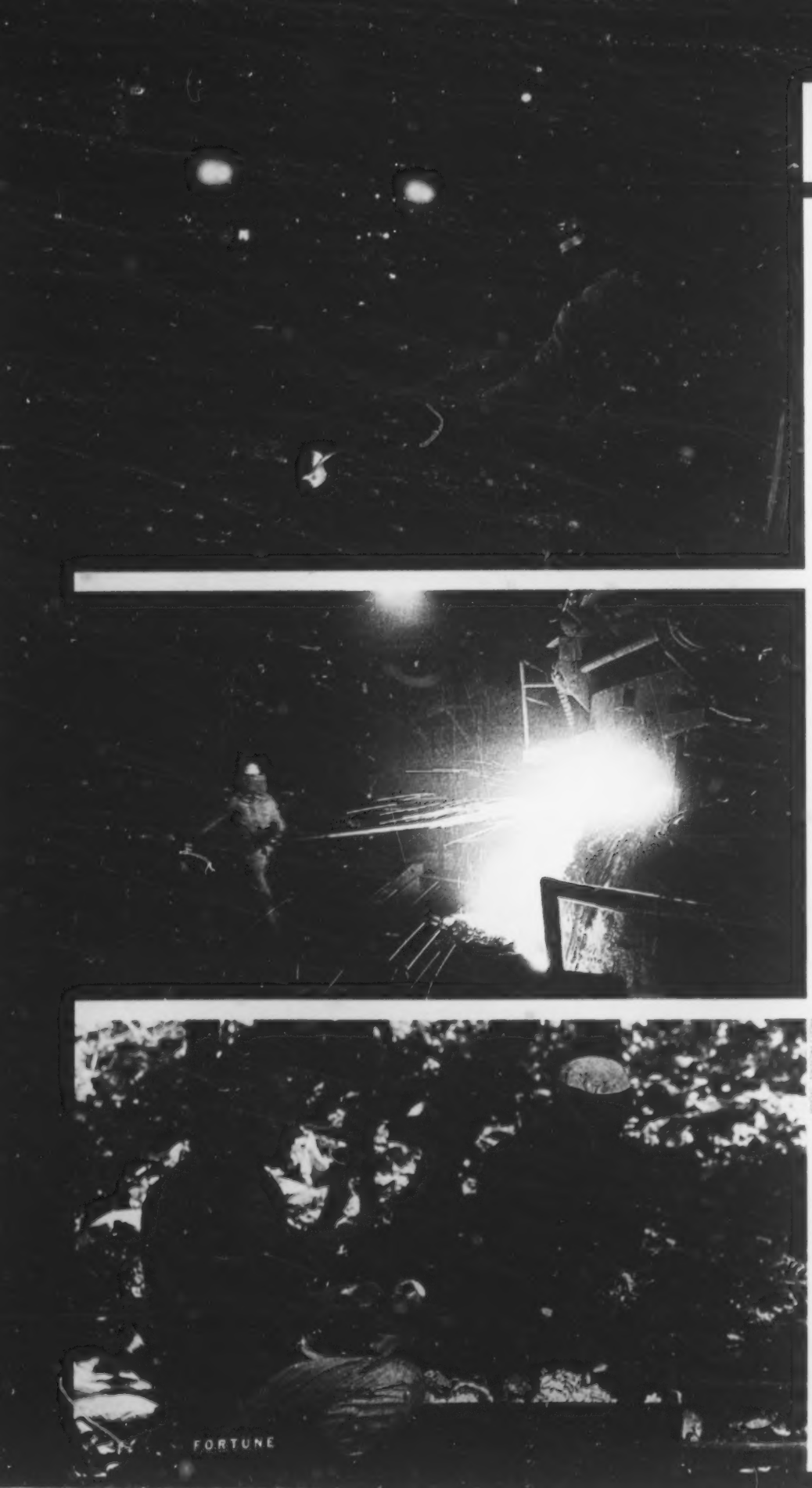


THE WORLD OF CARGILL

The photos here and on the following page illustrate Cargill's vast reach. In High River, Alberta, workers prepare beef carcasses that will be sliced and trucked to supermarkets. In Monticello, Minnesota, employees fry omelets for airlines and hospitals. In Uchoa, Brazil, oranges are gathered for concentrate.







his efforts. Cargill always hedged his bets, selling the grain forward on the futures exchange—a conservative approach that the company follows to this day.

A prototypical prairie entrepreneur, Cargill brought his three brothers into the business and expanded into barge towing, lumbering, and coal hauling. But he also speculated in real estate. When W.W. died in 1909, without a will, his company was essentially broke. A committee of creditors split Cargill into two pieces—one run by W.W.'s oldest son, Will, the other by a son-in-law, John Hugh MacMillan. Will, a spendthrift, oversaw the debt-laden land development operations from Valier, Montana. MacMillan, a stern, detail-minded manager, tended Cargill Elevator Co., the thriving Minneapolis grain business. Eventually both families bought out Will Cargill. The MacMillans have held the upper hand at Cargill ever since.

THE CURRENT CEO, Whitney MacMillan, now 62, has run the business for 15 years. A taciturn and cantankerous visionary who graduated from Yale, he hardly looks the part of a billionaire. He drives himself to work in an Oldsmobile, dresses in off-the-rack suits, and works in a spartan office. His only indulgences: tennis, golf, a one-ninth share of the Minnesota Vikings (actually held by his wife, Betty), and a cattle ranch in the Crazy Mountains of Montana, next to anchorman Tom Brokaw's spread.

MacMillan engages in a devil's advocacy style of management. He stakes out deliberately provocative positions and invites lieutenants to prove him wrong—a tactic that sometimes drives them nuts. Cool in public, MacMillan can be warm, even witty, in private. Recently, over cocktails with a small group of associates, he launched a debate on the provenance of the flush toilet, particularly the role played by one Thomas Crapper. (The English inventor, whose name lives on in, er, posteriority, did patent such a device but was not the first to do so.)

The chairman maintains a constancy of purpose that he sums up in a single sentence: "We will be the best at meeting the world's growing demand for basic goods

Cargill thrives on basic commodities. In Reserve, Louisiana (top), corn is loaded for export. In Monroe, Michigan, a steelworker fires up the furnace. And in Ilhéus, Brazil, laborers remove beans from cocoa fruit; Cargill will buy the beans and process them at a nearby factory.

and services." Despite Cargill's size and complexity, MacMillan remains a fervid believer in the advantages of private ownership. "Our competitors are foreign companies that have their bankers, suppliers, and customers as owners," he says. "Their shareholders are patient."

So are his, although not as patient as they used to be. Press reports have had it that Cargill's shareholders have been at each other's throats, demanding that the company either be chopped up and sold off or launched on the New York Stock Exchange. Not true. But the families and the company are in the early throes of a tumultuous transition. With MacMillan having to retire in three years, only two members of the next generation work at the company, and neither is considered old or experienced enough to succeed him. Austen Cargill II, 41, who holds a Ph.D. in fisheries ecology, is in charge of food safety. John Hugh MacMillan IV, 39, is a manager at Cargill's heating oil distribution subsidiary in Chelsea, Massachusetts.

As Whitney MacMillan leaves the scene, so too will nearly the entire top tier of management. The three relatives who sit with him on the corporate board are all approaching 70, mandatory retirement age for family directors. They are Whitney's brother, Cargill MacMillan Jr., a senior vice president until 1988, and two cousins—James Cargill, also a former senior vice president, and W. Duncan MacMillan, a top official at Waycrosse, the families' private investment advisory firm.

Also contemplating their pensions are Cargill's highest-ranking nonfamily executives—vice chairman William Pearce, President Heinz Hutter, and the two executive vice presidents, James Howard and Gerald Mitchell. For years these men—brothers, cousins, colleagues—have formed the nucleus of a 10 A.M. strategy session that meets over coffee in the château's cafeteria. Their bonds of collegiality cannot be replicated. Nor should they be. Says Robbin Johnson, vice president of public affairs: "This informal system of communication worked well for the current generation. But now we have more businesses and more geographies and more managers. You can't have five guys sitting around a coffee table running all this."

WHITNEY MACMILLAN'S most pressing task, as both paterfamilias and CEO, has been to ensure that the shareholders and the company remain in each other's thrall. There are now 75 heirs and heiresses. Most know next to nothing about crushing soybeans or milling corn. And until recently, many had a bad case of asset lock: too much net worth tied up in the illiquid shares of one very large company.

Last winter Cargill gave family members a chance to tender as much as 30% of their stock to an employee stock ownership plan for company workers. But a surprising thing happened: They sold only 17%. That put $730 million of stock into a trust that will be divided among Cargill's eligible U.S. employees. It also left MacMillan and his colleagues feeling quite pleased. Says vice chairman William Pearce, the polished lawyer who negotiated the ESOP: "The fact that the families tendered only 17% tells me there is a very stable relationship between owners and management."

To solidify that relationship, Cargill has expanded its board of directors. In May the council of elders elected two new members, both daughters of current directors and the first females on the board. Lucy MacMillan Stitzer, 31, is a Connecticut banker. Marianne Cargill Liebmann, 39, owns two Montana flower shops. The board also recruited two prominent Minneapolis businessmen as its first outside directors in 40 years: Winston Wallin, 66, former chairman of Medtronic, a manufacturer of medical devices, and Michael Wright, 54, chairman and chief executive of Super Valu Stores, a major grocery chain.

The new board members should bring fresh thinking to an inbred panel. Stitzer, for example, shares her elders' pride in the business but thinks the board needs new voices: "If you listen to the same people all the time, your ideas get old."

The whole notion of being a grain merchant is one idea that has passed its prime. The world grain trade peaked at 240 million metric tons in 1979 and has been in a sustained funk ever since. American merchants have been hardest hit. They captured the majority of the Soviet Union's new business in the 1970s, only to lose most of it for good after Jimmy Carter embargoed American grain sales following the in-

AMERICA'S LARGEST PRIVATELY HELD COMPANIES

COMPANIES	1991 SALES ($ billions)	BUSINESS	OWNERSHIP
CARGILL Minnetonka, Minnesota	$49.1	Grain trading, food processing, meatpacking	Cargill and MacMillan families
KOCH INDUSTRIES Wichita, Kansas	$18.0*	Petroleum refining and production	Koch family
UNITED PARCEL SERVICE Atlanta	$15.0	Package delivery	ESOP
CONTINENTAL GRAIN New York City	$14.1*	Grain trading, fertilizer, poultry	Fribourg family
CARLSON COS. Minneapolis	$9.3	Hotels, restaurants, travel agencies	Carlson family
M&M MARS McLean, Virginia	$7.5*	Candy bars and snacks	Mars family
NWA St. Paul	$7.5	Air transport	LBO partnership
BECHTEL GROUP San Francisco	$7.5	Construction, engineering	Bechtel family
GOLDMAN SACHS New York City	$7.0*	Investment banking	Partnership
R.H. MACY New York City	$6.8	Department stores	LBO partnership
ERNST & YOUNG New York City	$6.3*	Accounting, consulting	Partnership
PUBLIX SUPER MARKETS Lakeland, Florida	$6.2	Supermarkets	ESOP
KPMG PEAT MARWICK New York City	$6.0	Accounting, consulting	Partnership
PRITZKER FAMILY COS. Chicago	$6.0*	Hotels, restaurants, manufacturing	Pritzker family
SUPERMARKETS GENERAL Woodbridge, New Jersey	$5.7	Supermarkets, drugstores	LBO partnership

*FORTUNE estimate

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the American Council for Drug Education

vasion of Afghanistan. Today some 50% of America's grain elevator and terminal capacity stands idle.

Cargill's future depends on its ability to move further up the value chain into processing. Says agricultural sector president Daniel Huber: "We can no longer differentiate ourselves by elevating a bushel of grain cheaper than anyone else. We need quality, we need customer service, we need marketing." *We need help.* For two years Cargill has worked with consultant McKinsey & Co.—that paradigm of new managerial paradigms—to immerse itself in synergy, teamwork, and empowerment.

The company seems to be learning its lessons. For example, ConAgra, Cargill's biggest customer (as well as one of its chief rivals), buys products from 18 Cargill divisions, including corn milling, salt, poultry, beef, citrus, and cocoa. This spring Cargill clumped its divisions into broad sectors and gave sales managers authority to sell more than one product at a time. Says Warren Staley, North American chief of staff: "We've had tunnel vision. We haven't worked worth a damn as teams across businesses."

"Cargill is a company with a lot of patience." Ah, there's that word again.

Within businesses, by contrast, Cargill has been practicing much of what McKinsey has been preaching for a long time. To wit:

■ **Give customers precisely what they want.** If you do, you can prosper even in an overcrowded, rusted-out business like steel. Cargill's North Star mini-mill in Monroe, Michigan, can turn out small batches of steel bars tailor-made to a client's exacting specifications. Monroe combines modern methods of quality management with a commodity merchant's ingrained attentiveness to cost. The plant, which has never lost money, is still charging General Motors the same prices for the same grades of steel as it did when it opened in 1983.

■ **Add value without spending a fortune on packaging, marketing, and advertising.** Leave that to the likes of Kraft, Sara Lee, and Heinz. Cargill's giant corn-milling plant in Eddyville, Iowa, can turn simple kernels of corn into a multitude of products—including fructose syrup for Coca-Cola's soft drinks, gluten meal for Ralston Purina's dog food, and citric acid sudsing agent for Lever Brothers' Wisk.

■ **Listen to employees.** Says meat sector president William Fielding: "The old style was management by fear. Now, if you want to beat your competition, you need better thinking and better people." Beef processing is a mature industry if there ever was one; per capita consumption in North America peaked in 1977. A worker suggestion that trims 10 cents off the cost of slaughtering a steer can save $500,000 per year.

Beef-packing plants are by nature smelly, disgusting places. But Cargill's facility in High River, Alberta, just south of Calgary, is surprisingly clean and bright. Every day 1,700 steers and heifers climb the "stairway to heaven"; at the top of the spiral ramp they get a sharp jab to the jugular. Then they are bled, beheaded, skinned, eviscerated, sawed, and sliced. As the carcasses move through the plant, any employee has the power to halt the line if he thinks something is amiss. Cargill, with just this one plant that it opened in 1989, has become the No. 1 beef packer in Canada.

■ **Take what you learn in one country and transfer it—very carefully—to another.** Foreign operations, where Cargill has 40% of its assets, are critical to its future. But when Cargill enters a big country, like Brazil, it starts small. The company arrived in Brazil 27 years ago, investing $9 million in a facility to develop hybrid seeds. As Cargill expanded, it plowed every cruzeiro it earned back into the business; no profits were repatriated. Today it has ten major product lines—including oranges, corn, soybeans, and cocoa—with a total net worth of $250 million.

Doing business in Brazil is like riding a *montanha-russia*, Portuguese for roller coaster. Inflation has *fallen* to about 23% per month, and the cruzeiro loses roughly 3% of its dollar value every day. Cargill must pay as much attention to managing its balance sheet as to managing its processing plants. Says Brian Hill, president of Cargill Brazil: "You can't be here if you're looking for short-term earnings. But Brazil has 150 million people and a major role in world agriculture. It's too big to ignore."

Brazil is a prime example of Cargill's "soft matrix," jargon for a system that melds geographic management with product line management. When Cargill decided to build a state-of-the-art corn-milling plant in

Uberlândia, 356 miles north of São Paulo, it flew in a bevy of in-house technical experts from the U.S. and Europe. They, in turn, relied on Brian Hill's country office to make sure they didn't fall on their duffs because they had miscalculated the market demand, exchange rate risk, or political climate.

Cargill views its presence in countries like Brazil almost as a mission. Says President Heinz Hutter, the architect of Cargill's Latin American strategy: "We want to fulfill a humanitarian function, to raise the standard of living." A pious platitude? Not at Cargill's cocoa-processing plant in Ilhéus, an impoverished seacoast town in the northeastern state of Bahia.

Isn't it time to at least consider taking Cargill public? "No," says Whitney MacMillan.

The company got off to a bad start in Ilhéus. The plant, built in 1982, was its first venture into cocoa processing. The managers soon discovered that crushing cocoa beans—which are highly susceptible to bacterial infestation—was much more complicated than crushing soybeans. The plant lost money for seven years, until engineers from Gerkens, a major Dutch cocoa processor acquired by Cargill in 1986, flew into Bahia and redesigned the entire operation.

For the fiscal year that ended May 31, the Ilhéus plant earned $1.3 million—at a time when world cocoa prices have been at their lowest level in 20 years. Other Ilhéus cocoa processors have laid off workers and shut down production lines, but Cargill is running at 100% capacity. Says assistant vice president Jos Van Broeckhuijsen: "We had a ten-year learning curve, which is very painful. Cargill is a company with a lot of patience." Ah, there's that word again.

Patience has its rewards, especially for Cargill's Ilhéus work force. The company pays $350 per month on average, six times the national minimum wage. Every employee receives benefits worth 80% of his salary. Cargill provides family health insurance, dental care, transportation to and from work, a daily hot lunch, and subsidies for children's schoolbooks. Says Jailson Carlos Silva, 28, a roasting oven operator: "Cargill can't solve all of Brazil's problems. But if we work hard and are loyal to the company, maybe we can guarantee our own futures."

Cargill's critics, a mix of rural activists and Naderites, see the picture differently. They argue that the company prospers primarily by exploiting the world's small farmers. They condemn Cargill for plying the family farmer with seeds, feed, and fertilizer (thereby inducing him to overproduce), buying his crops and livestock at rock-bottom prices, and lobbying Congress to enact laws that curb agricultural subsidies.

Cargill, which has been accused of gouging farmers and manipulating markets since W.W.'s days, scoffs at these charges. The company, after all, depends on a healthy agricultural economy for its own prosperity. It does campaign against subsidies, even though it is the biggest beneficiary of the U.S. government's agricultural export aid. Cargill believes it could do far more business in a truly free global market.

More recently Cargill has been reproached for neglecting worker safety and polluting the environment. In both areas it has taken steps that have won grudging respect from critics. Last year Cargill settled a case in which the Occupational Safety and Health Administration charged it with ignoring conditions that led to repetitive-motion injuries among workers at three U.S. poultry plants. The company paid $400,000 and promised to intensify an ergonomics program. In beef processing, Cargill was the first major company—back in 1989—to reach a broad agreement on safety with the United Food and Commercial Workers. The union gives Cargill mixed reviews. "We believe the company has put its best foot forward," says Deborah Berkowitz, the UFCW's safety director. "But there is still a lot of intransigence among plant managers at the local level."

THE COMPANY'S most notable insult to the environment came from Gardinier, a Florida fertilizer producer it acquired in 1985. Three years later Gardinier accidentally dumped 40,000 gallons of phosphoric solution into the Alafia River, which runs into Tampa Bay. The spill killed fish and other marine life. Local politicians, fed up with Gardinier's long record of environmental mishaps, demanded that the plant be shut down. Cargill settled a civil suit for $2 million and agreed to accelerate its $200 million program to upgrade the plant. Says Jan Platt, chairman of the Hillsborough County Environmental Commission: "I've been impressed. Cargill took heed of the criti-

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cism and has worked to clean up its act."

As Cargill looks ahead, three issues loom large. Choosing a successor to Whitney MacMillan will probably be the least troublesome. The corporate restructuring announced in May positions several new sector heads—most of whom are in their late 40s or early 50s—as contenders for the top slot. Cargill has a strong bench.

If it is to meet challenge No. 2—doubling its net worth every five to seven years—Cargill will have to raise that figure to $7.2 billion by 1999, a daunting prospect. Can this patient tortoise still triumph over the fleet-footed hares of the world? Cargill's innate temperance kept it on the sidelines during the expensive takeover wars of the 1980s. Says President Heinz Hutter: "We're very glad that we didn't participate in that craziness."

But caution has its drawbacks. Cargill was late getting into the chicken business, where it was out-hustled by entrepreneurs like Frank Perdue. It missed out entirely on the now enormous potato market (just think of all those McDonald's French fries). And it is only now considering an entry into fresh fruit and vegetables.

CARGILL heads into the mid-1990s with a ton of cash and a superb credit rating. But the $730 million in debt it took on to finance the ESOP won't soften its ultraconservative approach to acquisitions. Isn't it time to abandon the third great challenge—keeping the company in family hands—and to consider going public? Even if the stock market priced Cargill at just 1.5 times book value, the founding families would, in an instant, be nearly $2 billion wealthier. The company would also be able to finance acquisitions with stock, not just cash and debt.

But the families, satisfied by their sale to the ESOP, are not hankering for more liquidity. An investment that has grown 12.2% annually over the past half-century is hardly a bad place to stash your cash. As for the company, were it to list on the stock exchange, it would undoubtedly be pestered by security analysts and pension fund managers demanding that it steer clear of depressed businesses like steel and unstable countries like Brazil. Ask Whitney MacMillan if Cargill will need to go public anytime soon, and he offers a typically expansive reply: "No." Given this company's extraordinary longevity and the determined way it has prepared for change, there is a good chance that the laconic billionaire has got it exactly right. F

'THEM'

How Europe's hostility to immigrants hurts its drive for unity and greater economic power. ■ *by Carla Rapoport*

GIANNI GIANSANTI—SYGMA

EUROPE'S euphoria over the collapse of the Berlin Wall three years ago has given way to fear, insecurity, and rising hatred. Fascists have won elections in France, bitter strikes have hit Germany, and open warfare rages on the Continent for the first time since 1945. In Italy a young Mussolini has entered Parliament, and Germany has a crop of fresh-faced Nazis. Blame it partly on the current economic downturn. But to find the biggest cause of trouble in the European Community and the countries immediately surrounding it, look at the faces on this page. They belong to immigrants fleeing war, poverty, repression, or all three.

For U.S., Japanese, and European multinational companies that have been banking on a unified market across Europe, the wave of immigrants—and the reaction to it—is bad news. The goal of closer political union among the 12 members of the EC now looks tenuous. Many Europeans worry that greater unification will result in extension of too many rights (like voting) to immigrants and their children. These jitters are fast derailing plans for a more federal-style European government and harmonization of labor practices. They could even slow down plans for a unified European currency.

The refugees are arriving—and looking for work—just as the region's largest employers are eliminating jobs and shifting manufacturing to low-wage countries. Hundreds of thousands of immigrants are coming into Western Europe from places like Somalia and Sri Lanka as well as Romania, Bulgaria, and war-torn Yugoslavia. With unemployment rates averaging 9% across Europe, prospects for high school graduates, let alone for relatively untrained immigrants, are poorer than they've been for years.

Many political experts and academics now believe that the wave will grow, with five million or more economic and political refugees hoping to crowd into Western Europe over the next three to five years. "The instability in Europe today is unprecedented," says Susan Woodward, visiting fellow at the Brookings Institution in Washington, D.C. Adds Jean-Claude Chesnais, head of demography at the National Institute for Demographic Studies in Paris: "We are apparently witnessing the start of a long period of chaos."

Refugees from Yugoslavia, Vietnam, Russia, and Nigeria await processing in a camp in Austria.

No welcome: fleeing arson at an Italian camp

Western Europe's 17 million immigrants already make up nearly 5% of the population, including four million North Africans and Turks, many of whom came as so-called guest workers decades ago. That percentage is expected to rise quickly. In France, Germany, and Sweden, foreign-born children make up more than 10% of primary school enrollment.

As the number of foreigners grows, tolerance toward them is melting away. Shocking as this hostility seems, it is not hard to see why even the most open-minded Europeans are worried. The civil war in Yugoslavia has prompted the worst refugee crisis since World War II. Some 1.7 million people have been forced from their homes because of the fighting. So far, an estimated 375,000 of them have escaped the country and have found their way to makeshift refugee camps from Hungary to Sweden.

The same seeds of the Yugoslav war—ethnic rivalries, economic hardship, and plentiful weapons—exist in Romania and many of the former Soviet Republics, especially Ukraine and Moldova. Even if war doesn't break out, many minorities will flee rising persecution. Says Chesnais, the demographic expert in Paris: "Nationalist sentiments, having been suppressed by the fictional notion of international socialism, are now resurfacing."

BEYOND POLITICS and persecution, Western Europe can expect a crush of economic refugees. Millions are losing their jobs in the rough passage from communism to market capitalism. Chesnais estimates that about five million workers could be jobless within the next few years in Poland. In the former Soviet Republics, the total could top 40 million. In the Muslim nations of North Africa, the unemployment rate is above 20%, and per capita GNP ranges from $700 to $2,500.

The rising tide of immigrants is already most dramatic in Germany. Nearly every city now has a refugee camp encircled with a chain link fence. Newcomers are being jammed into abandoned army barracks, or even the portable shelters normally used on building sites. More than 250,000 foreigners arrived last year, twice the number in 1990. This year the figure is expected to top 450,000, bringing the number of foreigners seeking residence in Germany to more than 1.2 million. These figures do not include the 1.2 million ethnic Germans who have already come into the country from Poland, Romania, and the old Soviet Republics since 1988.

Up to now, Germany has been wide open to immigrants. As a penance for Nazi atrocities, West Germany agreed to provide food, shelter, and pocket money to anyone seeking asylum at its borders. While only a small percentage are eventually allowed to settle in Germany for good, the state often ends up supporting applicants for as long as seven years while appeals are heard. During this period, they are not allowed to work.

With the costs of unification now soaring out of sight, Germans from Frankfurt to Dresden have become increasingly angry about the alleged abuse of their system. Once the powerhouse of Europe, Germany's economy is sputtering, the inflation rate is rising, and short-term interest rates are twice those of the U.S. The cost of taking care of refugees is beginning to look perilously high.

As immigrants pour in, Germans awake nearly every morning to fresh announcements of job reductions by major employers. Nearly every famous German name is cutting back hard. Daimler-Benz wants to eliminate 20,000 jobs over the next two years; Volkswagen hopes to reduce employment by 12,500 in the same period. BMW, which plans to cut 3,000 jobs in Germany, is now considering its first U.S. plant. Other big German manufacturers are adding new facilities in Southeast Asia and Latin America.

The combination of anxiety about jobs and the very visible and growing presence of foreigners has been politically explosive. The scariest reaction has been the rise of an evil breed of young neo-Nazis. Totaling about 4,000 members nationwide, they specialize in arson, swastika-daubings, muggings, and, occasionally, murders of asylum seekers.

Most Germans roundly condemn the neo-Nazi hooliganism, but they are often more tolerant of other new right-wing parties. In Bremen, where foreigners now make up 20% of the

Muslims from North Africa pray in Naples, Italy. Scenes like this are unnerving many Europeans.

population, six members of the extreme right-wing German People's Union were elected to the state assembly earlier this year, largely by young voters. In April the party won 6% of the vote in Schleswig-Holstein in northern Germany.

In the southwest region of Baden-Württemburg, home of the industrial city of Stuttgart, the anti-immigrant Republican Party took 12% of the vote in the April elections, pushing Helmut Kohl's Christian Democrats out of the majority in that district for the first time in 20 years.

THOUGH GERMANY seems in no danger of a Hitler revival, the new right wing should be taken seriously. Travel down to Bavaria to meet the leader of the Republican Party, Franz Schoenhuber, 69, former Waffen SS soldier, journalist, and author. If Schoenhuber is the devil, he's the devil you'd have lunch with. He's fluent in five languages (he acquired Russian as a prisoner of war), loves Italian food, speaks perfect English, and complains about being lumped with bad guys like Hitler. His first wife, he wants you to know, is half-Jewish.

Jews, says Schoenhuber, should be let in, along with ethnic Germans and trained Europeans, like Italian cooks and Spanish architects. But not Muslims, most dark-skinned people, or any of the unwashed unless they can prove German heritage. Says he: "The whole of Germany is crowded together like Manhattan and the Bronx. We don't have room." Schoenhuber advocates a quota system, a tighter version of that used in Britain or the U.S. His parting shot concerning national guilt: "The next time I see President Bush, remind me to ask him about the Indians."

Right-wing parties in France are also gaining ground on anti-immigration platforms. Jean-Marie Le Pen, founder of the racist National Front party, has never been more popular. He personally won 31.1% of the vote in Nice in last March's regional elections, and his party took 14% of the vote nationwide, four percentage points better than its showing in 1986. Le Pen's party also broke the dominance of the Communist Party in working-class suburbs of Paris.

France has stricter laws than Germany about who can be granted asylum. But once refugees get in, gaining citizenship is relatively easy. About two million have been naturalized in recent years. Even if they haven't yet been naturalized, immigrants receive unemployment benefits.

In Italy, where the unemployment rate is around 11% and many big companies have reduced workers' hours, the immigration issue is equally explosive. Right-wing parties have used the issue to gain ground. One of them, the Northern League, now has 80 deputies and senators in Parliament, up from just one five years ago. And Alessandra Mussolini, granddaughter of the Fascist dictator, was elected to Parliament this April as a member of the neo-fascist Movimento Sociale Italiano. Both parties say their motives have nothing to do with racism. Says Mussolini: "In Naples there are plenty of black immigrants, but we have to look after the interests of our own young people first."

Looking ahead, some demographic experts argue that Europe will need the workers it now rejects. According to Bernd Hof, an economist at the German Enterprise Institute in Cologne, Germany needs 300,000 immigrants a year to keep the work force stable. Other European countries—even Italy has zero population growth—face shrinking work forces as well. Hof believes that Belgium, Denmark, Holland, Greece, and Spain will start seeing work forces shrivel within this decade. Britain will reach that point in 2007. The anti-immigrant politicians brush off such warnings. Says Schoenhuber: "Untrained immigrants can't support the German social system." Others, though, think the newcomers can be trained. Whatever their political stance, nearly all Europeans agree that they badly need an immigration policy. Until one can be achieved, expect more chaos on Europe's borders.

REPORTER ASSOCIATES *Allison McCormick and Kevin Moran*

WHERE THEY COME FROM

COUNTRY POPULATION in thousands (12/31/90)	TOTAL LEGAL IMMIGRANTS	LEGAL IMMIGRANTS AS A % OF TOTAL POPULATION	EASTERN EUROPE & FORMER SOVIET UNION	NORTH AFRICA & TURKEY	OTHER (including other West European countries)
Germany* 77,555	5,241.6	7%	1,036.7	1,775.1	2,430.0
France 56,184	3,607.6	6%	N.A.	1,613.6	N.A.
Netherlands 14,864	692.4	5%	17.5	363.7	311.2
Belgium 9,895	904.5	9%	5.8	243.5	655.2
Italy 57,657	781.1	1%	99.3	127.9	553.9
Britain 57,121	1,875.0	3%	237.0†	N.A.	1,638.0†
Switzerland 6,628	1,100.3	17%	156.0	71.1†	873.2
Austria 7,595	413.4	5%	150.8	N.A.	262.6

*Data for Germany as of 9/30/90; last available figures for U.S.S.R. and Czechoslovakian emigrants from 12/31/89. †1989.

SOURCE: DATA FROM NATIONAL GOVERNMENTS AND THE ORGANISATION FOR ECONOMIC COOPERATION AND DEVELOPMENT

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BREAKING UP IBM

How John Akers is splitting Big Blue into 13 Baby Blues

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MANAGING/COVER STORY

ABOVE: Akers's reforms are far-reaching, but is he pressing his message hard enough? Photo by Gregory Heisler.

COVER: Andy Freeberg took this photo of the IBM chairman.

BREAKING UP IBM 44
Facing horrendous challenges, John Akers is taking Big Blue apart and may even sell stock in the corporate pieces. His reforms rate a B– so far, but the job will need an A+ effort. *by David Kirkpatrick*

THE BIG AND THE BLOATED: IT'S TOUGH BEING NO. 1 49
GM's top brass are in a muddle identical to that of IBM's managers: How do you reinvigorate an aging organization?

WHAT IF THEY HAD BROKEN UP IBM LIKE AT&T? 52

"The value of IBM may very well be a lot more in the sum of the parts than the whole." 44

THE ECONOMY

THE WORLD ECONOMY IN CHARTS 61
The world's fastest-growing economies are no longer confined to the blistering Pacific Rim; now they are everywhere, from Latin America to central Asia. For a snapshot of how both industrialized and developing nations have performed in the past three years—and where they are likely to head in 1992 and 1993—check out our annual display of graphs and tables. *by John Labate*

AUTOS

CHRYSLER'S NEXT BOSS SPEAKS 82
In an interview with FORTUNE, the auto giant's new, down-to-earth vice chairman, Robert Eaton, lays out his vision for the company and his views on how it will fare against the Japanese competition.

EXECUTIVE LIFE

THE NEW LOW-RISK ENTREPRENEURS 84
Starting a company is still a long shot, but a growing band of corporate dropouts and up-to-date dreamers are using business skills and more realistic goals to even the odds. *by Kenneth Labich*

CORPORATE PERFORMANCE

HOW TO WIN WITH A VALUE STRATEGY 94
American Brands is smoking since it spotted the trend to cut-price brands. *by Faye Rice*

NO PRODUCT IS TOO DULL TO SHINE 95
Church & Dwight's fresh uses for its baking soda keep profits fizzing. *by Peter Nulty*

WHY TO BUY BIG IN BAD TIMES 96
By acquiring mines when the industry slid, Asarco's CEO hit pay dirt. *by Ricardo Sookdeo*

"The promise of a new day . . . We can make it better, baby, Yeah . . ." 12

"I bring strengths in manufacturing and quality that Lee didn't have, and I don't have some strengths he has." 82

"You have to ask yourself: If I'm going to work this hard, why not do it for myself and not somebody else?" 84

"Value is in, ostentation is out." 94

"We started trying to save $50 million but ended up saving $100 million." 96

"Radiation contamination is our No. 1 problem. It will take years just to get an accurate picture of the situation." 110

CORPORATE PERFORMANCE

COMPANIES TO WATCH 97
Carrot-and-stick remuneration propels Technology Solutions' profits. *by Richard S. Teitelbaum*

SELLING

FINDING NEW WAYS TO SELL MORE 100
Smart companies are listening better, broadening their product lines, exploring new markets, and generally trying to make themselves invaluable to their customers. *by Susan Caminiti*

INNOVATION

PRODUCTS TO WATCH 107
Bell Atlantic's floating phone, doggie delicacies, a psychedelic TV screen, and more. *by Alison Sprout*

THE ENVIRONMENT

THE NEW SOVIET THREAT: POLLUTION 110
After 74 years of Communist mismanagement, the former Soviet Union is an environmental menace to the world. The cleanup will cost billions—and guess who pays. *by Paul Hofheinz*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12
The S&L bailout stalls, Saturn in orbit, lyrics as an economic seer, animals do their bit, and more.

FORTUNE FORECAST 25
Our region-by-region projections for the U.S. economy. *by Joseph Spiers*

PERSONAL INVESTING 29
To find market leaders as the recovery takes hold, make your way stock by stock. *by Terence P. Paré*

LETTERS TO FORTUNE 40

BOOKS & IDEAS 162

FORTUNE PEOPLE 167
The Trump-Bork connection, and Lee Iacocca acts like Paul Newman. *by Laurie Kretchmar*

KEEPING UP *by Daniel Seligman* 169

THE GLOBAL 500

IT WAS A BAD YEAR EVERYWHERE 176
FORTUNE's unique list of the world's 500 largest industrial companies shows that the pain was global in 1991. *by Wilton Woods*

THE 500 RANKED BY SALES 179
The largest industrial companies.

THE 500 RANKED BY PERFORMANCE 192

THE 500 RANKED WITHIN INDUSTRIES 196
How companies stack up against competitors.

THE 500 RANKED WITHIN COUNTRIES 218
Where each company rates nationally, plus the headquarters city and phone number.

ALPHABETICAL INDEX TO THE GLOBAL 500 230

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EDITOR'S DESK

HERE COME IBM'S BABY BLUES

LOOK AT IBM—and you might be looking at yourself. Says Keith Johnson, our technology editor: "IBM faces all the problems facing industry in general, and all the challenges that confront managers in trying to overcome those problems." Only more so.

Cover writer David Kirkpatrick with Clara Jane and, from lower left, the Big Blue team: Reese, Guthrie, Moore, and Johnson

The turnaround battle that CEO John Akers is waging is full of drama, adventure, and suspense. This is the supremely important but little-known tale that associate editor David Kirkpatrick reveals in our cover story on IBM—our fourth in four years. What Akers is carrying out is nothing less than revolution: He is breaking IBM into 13 corporate pieces, a voluntary process not unlike the forced dismemberment of AT&T in 1982. You may be able to buy stock in some of them within the next several years. Meanwhile, corporate strategies are being thoroughly revised, customer service is getting a vigorous push, and partnerships with other companies—including competitors—are multiplying.

Kirkpatrick examines and evaluates eight key strategies the company is pursuing. For this, he interviewed Akers and a score of other high IBM executives as well as 45 additional sources in a two-month effort that also involved the assistance of reporters Jennifer Reese and Alicia Moore, intern Catherine Guthrie, and editor Johnson. In the midst of it all, Kirkpatrick's wife, Elena Sisto, an artist, was giving birth to their first child, Clara Jane. Both the manuscript and the baby were due on the same day; both arrived a little late, but, we think you'll agree, in top condition.

In keeping with the international spirit of Big Blue, which gets more than half its revenues outside the U.S., we also provide a feast of information on the international economy in this issue. Our Global 500 list of the biggest industrial companies in the world begins on page 175. Under the direction of international editor Donald Holt and lists editor Catherine Haight, it has been expanded this year to include rankings of the top 50 companies by each of six performance measures, and national rankings of companies, according to the size of their sales, in each of 34 countries. Beginning on page 61, you will also find 12 intriguing and colorful pages of "The World Economy in Charts"—everything you always wanted to know about the performance of nations and their markets.

Marshall Loeb

MANAGING EDITOR

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space camp—and experience weightlessness in an airplane?

Aerospace Ambassadors, a nonprofit group in Huntsville, Alabama, that promotes space and aviation education, charges $4,900 for the trip, airfare included. Twenty wannabe space travelers are already on their way to the cosmonaut training facility. Among them: fourth-grade teacher Lois Libenson, 48, from Dover, Massachusetts. Says she: "It's a once-in-a-lifetime thing. You've got to go for it." Space is still available for a second trip in August. **– A.J.M.**

BP'S HORTON: THE HATCHET GETS AX

■ Robert Horton is an oilman the way America likes oilmen: burly and bold. That was his undoing at staid **British Petroleum**. After a confrontation with the board of directors over his management style, Horton, 53, resigned as chairman and CEO. Says Fergus MacCleod, a security analyst for County NatWest in London: "He just rubbed too many people the wrong way."

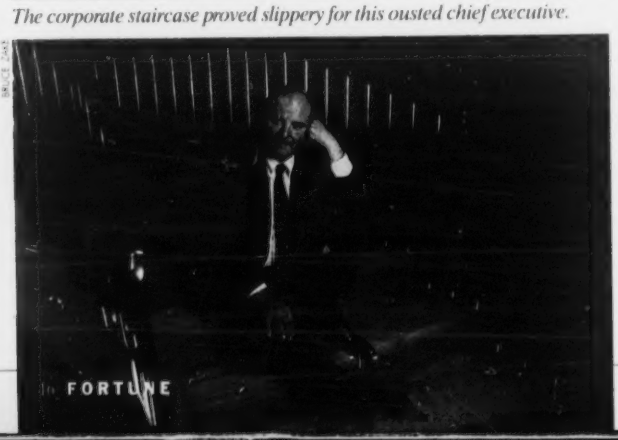
But in a sense that's what Horton was supposed to do. He earned his "Horton the Hatchet" nickname by cutting costs in previous jobs, most recently at BP America in Cleveland. Named to the top post in 1989, Horton set out to bust the bureaucracy and close the performance gap between stodgy BP and Shell Transport & Trading, Britain's half of **Royal Dutch/Shell Group**, a management paragon.

With much fanfare Horton launched a reorganization that included cutting London headquarters staff from 2,000 to 600. But he became vulnerable when oil prices softened last year. Sales and earnings are falling, and debt is increasing, in part to maintain a daring exploration program.

Horton's personal background may have hurt him too. The nine outside directors who forced him out include one peer (Lord Ashburton, who becomes chairman) and five knights. Horton's successor as CEO is David Simon, 53, a grad of Cambridge University's socially correct modern languages program. Horton earned a mechanical engineering degree at the less well known University of St. Andrews in Scotland.

Industry wags quip that Shell is a corporation of oilmen who aspire to be gentlemen, whereas BP is a company of gentlemen who aspire to be oilmen. Perhaps Horton was with the wrong crowd. **– Peter Nulty**

The corporate staircase proved slippery for this ousted chief executive.



HOW REVENUES OF THE TOP TEN GLOBAL 500 COMPARE WITH SOME NATIONAL ECONOMIES

1991 SALES in millions		1991 GDP (est.) in millions	
1. GENERAL MOTORS	$123,780	FINLAND	$126,630
2. ROYAL DUTCH/SHELL GROUP	$103,835	NORWAY	$106,320*
3. EXXON	$103,242	TURKEY	$103,800
4. FORD MOTOR	$88,963	THAILAND	$92,010
5. TOYOTA MOTOR	$78,061	HONG KONG	$82,680
6. IBM	$65,394	GREECE	$70,130
7. IRI (Italian holding company)	$64,095	PORTUGAL	$68,980
8. GENERAL ELECTRIC	$60,236	ISRAEL	$57,880
9. BRITISH PETROLEUM	$58,355	VENEZUELA	$52,660
10. DAIMLER-BENZ	$57,321	MALAYSIA	$47,940

FORTUNE TABLE / SOURCE: WEFA

*Actual.

FORTUNE PLAYS BENCHMARKER

■ News/Trends' first foray into benchmarking (April 20) compared the ten biggest U.S. industrial corporations with countries whose GNPs came closest to the companies' revenues. As the table shows, we've now done much the same for the world's biggest industrial companies (for more on these rankings, see the Global 500) and the GDPs of ten countries.

Eight of the companies, including four of the five U.S. outfits on both lists, do some sort of business on their match's turf. **General Motors** (No. 1 on both lists) has a fifty-fifty joint venture with Sweden's **Saab-Scania** (No. 276 on the Global list) to make GM Opel Calibras in Uusikaupunki, Finland. **Royal Dutch/Shell Group** produces 54,000 barrels a day off the shores of Norway. Among the exceptions: **Exxon**. It operates in more than 80 countries but has nothing going in Turkey.

The ten global leaders mostly did worse than their national matches. On average, sales fell 1%, vs. a rise in GDPs of more than 7%. **– Alison Rogers**

AIRLINES: ONE DOWN, TWO TO GO?

■ Three bankrupt carriers—**TWA**, **Continental**, and **America West**—still control more than 20% of the U.S. airline business, and their descent has kept a lot of folks guessing. TWA is apparently going in for a crash landing. CEO Carl Icahn may sell most of the carrier's assets, including its hubs in St. Louis, Frankfurt, and Paris, to **USAir Group**. TWA would most likely survive as a brand name only in Europe.

But Continental and America West could stay aloft if the economy revives. Standard & Poor's airline bond analyst Philip Baggaley points out that both airlines have made financial progress. Continental has lightened its heavy debt load by exchanging stock for unsecured debt and eliminating the claims of subordinated creditors. America West has given itself a shot at survival by cutting operating expenses about $100 million annually, trimming its fleet by 17% and employee roster by 20%.

Even if the two carriers are eventually grounded along with TWA, that doesn't necessarily mean less competition and higher ticket prices. This summer's fare wars were brought on in part by the resistance of leisure passengers to price hikes earlier in the year. Corporate managers are ever more vigilant about business-travel spending. And low-cost Southwest Airlines of Dallas is expanding in such new markets as California and parts of the Midwest. This could put more pressure on the larger carriers to hold down fares. **– Kenneth Labich**

By Joseph Spiers

HOW MUCH WILL YOUR REGION GROW?

■ Ask Southern Californians when the recession ended and watch the eyebrows rise. Duck if you're foolish enough to inquire of a New Yorker. But the fact is, most states have been plodding ahead for over a year. And according to Regional Financial Associates, a West Chester, Pennsylvania, consulting firm, there was no recession at all in 21 states. RFA, using FORTUNE's forecast of the U.S. economy, prepared the projections for the seven regions of the U.S. shown below. Housing, autos, and business investment in equipment will drive the overall economy, which we expect to grow a sluggish 2% this year and 3% next. Here's how these factors will play out in each of the regions, presented in descending order of economic size:

■ **NORTHEAST.** The recession might be over in this hardest hit of all places, but a recovery is hardly noticeable. Wall Street, critical to any rebound in the New York City area, has boomed in the past year. Employment in financial services has not increased, however, because securities firms are still focusing on cost cutting while banks consolidate. A Federal Reserve Bank of New York study warns not to expect anything but a muted recovery because labor and housing costs remain far too high for the city to compete with other regions for jobs and residents.

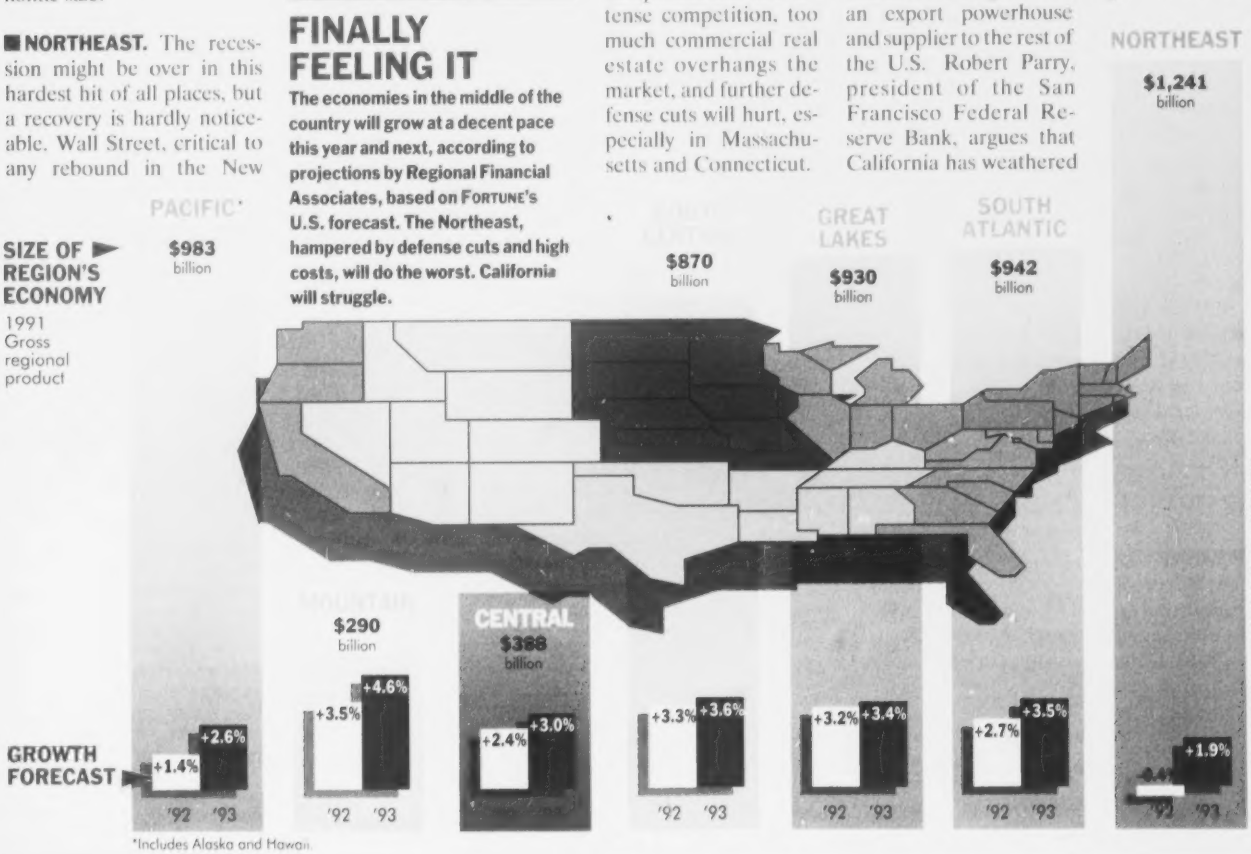
After three years of decline, New England has finally leveled off. Homebuilding is picking up. Big minicomputer companies like Digital Equipment and Wang have already gone through extensive restructuring. But New England will trail the rest of the country's economic growth both this year and next. Those computer companies still face intense competition, too much commercial real estate overhangs the market, and further defense cuts will hurt, especially in Massachusetts and Connecticut.

■ **PACIFIC.** L.A., no way. In the wake of the riots, U.C.L.A.'s Business Forecasting Project predicted tourism jobs in the Los Angeles area will shrink by a stunning 46,000 this year and keep contracting through 1993. The loss comes at a time when residents and companies were already abandoning this onetime mecca of the good life, since become America's symbol of pollution, congestion, crime, and crushing costs of regulation. Add in the ongoing problems of excess office space, military cutbacks, and bank consolidation, and you've got a local economy that will be howling big time for a long time.

But there's life outside Los Angeles. Last year nearly 200,000 fleeing Angelenos went only as far as neighboring San Bernardino, Riverside, and Orange counties, according to the state's driver's license data. California as a whole still attracts Americans from other states, though fewer than in the past, and the state is a magnet for foreigners. It is also an export powerhouse and supplier to the rest of the U.S. Robert Parry, president of the San Francisco Federal Reserve Bank, argues that California has weathered

FINALLY FEELING IT

The economies in the middle of the country will grow at a decent pace this year and next, according to projections by Regional Financial Associates, based on FORTUNE's U.S. forecast. The Northeast, hampered by defense cuts and high costs, will do the worst. California will struggle.



severe declines in defense and construction before. So look for the state to recover, though at a slow pace of 1% this year and 2% next, following a 1.6% tumble in 1991.

The Pacific Northwest continues to be a favorite destination for Californians, who will increase demand there for retail goods, homes, and services. The housing recovery in the rest of the U.S. will boost the important lumber industry in Oregon and Washington. Other pluses for the region: growing trade with Asia and greater employment in high tech.

■ **SOUTH ATLANTIC.** Hurt more by the recession than any other area save the Northeast, this region is likely to grow faster than the average through next year. The housing rebound nationwide will call for furniture from North Carolina and lumber and carpets from Georgia. Improving consumer finances and confidence will stimulate sales of textiles and apparel made in plants throughout the region. Florida will gain from tourism; retirees there, disgruntled with 3.5% yields on money-market funds, will feel richer later this year and next as the recovery pushes up short-term interest rates.

Atlanta, beaten up during the recession by the demise of Eastern Air Lines, bank consolidation, and a construction slump, is making a comeback. With such local companies as Delta, BellSouth, and Coca-Cola expanding, and with other companies moving in, employment has begun to grow.

The Washington, D.C., area has been learning a hard lesson: What Uncle Sam giveth, Uncle Sam taketh away. Cuts at military installations let the air out of the Maryland and Virginia economies last year. While these states will start to improve along with the national recovery, they—as well as the District—will perform much worse than the U.S. as a whole.

■ **GREAT LAKES.** Having suffered only a minor recession thanks to its restructured manufacturers, the former Rust Belt is set to enjoy a solid economic expansion. The national recovery should spark demand for industrial machinery and heavy trucks from factories in Great Lakes states. Exports of capital equipment will grow too, as Latin America and the smaller Asian countries continue to industrialize. Most important: Autos will rebound from an awful 1991.

Texas grew about 1.5% last year—proof that its touted economic diversification is more than public relations.

FORTUNE expects total sales of autos and light trucks will climb 6.5% this year to 13.1 million units and then to 14.8 million in 1993, driven by the need to replace aged vehicles. That means more business for the region's many assembly plants, parts makers, and steel mills. Diane Swonk, regional economist at First Chicago, predicts domestic makes will keep gaining market share because they are cheaper than imports. Housing is also buoying the area. Since the residential real estate market never boomed in the 1980s, it never got out of whack either. Now permits even for apartment buildings are increasing—a rarity in most regions.

■ **SOUTH CENTRAL.** Ever since the Gulf war, the energy business has been as exciting as a dry hole. Yet the Texas economy grew about 1.5% last year—proof that the state's touted economic diversification is more than public relations. With the rest of the U.S. now expanding, Texas will get stronger as its petrochemical plants spew out more plastics for autos and appliances and its high-tech factories supply more chips and computers to American businesses. Rising trade with Mexico will also bolster the state. What's more, says Mark Zandi of Regional Financial Associates, the banking debacle that originated with the oil bust of 1986 is largely over.

Louisiana has pulled out of its extended energy slump. Construction is reviving. The nationwide recovery in autos and housing should give a hand to the state's big petrochemical industry. And the Greater New Orleans Tourist and Convention Commission reports that the number of hotel rooms booked for conventions this summer soared 30% from a year earlier. Elsewhere in the region, factories will benefit from rising national demand for manufactured goods, especially appliances and autos made in Kentucky and Tennessee.

■ **CENTRAL.** The farm economy is suffering from falling livestock prices, weakening exports, and poor yields due to bad weather. Commercial construction remains in the doldrums—especially in Minneapolis—because of overbuilding. And the dwindling U.S. defense budget will further hurt St. Louis, where McDonnell Douglas, the country's largest defense contractor, is headquartered.

But according to bankers surveyed by Norwest Corp., homebuilding is strong in states like Iowa, the Dakotas, and Nebraska that were little affected by the national recession, and in Minnesota outside the Twin Cities. The Minneapolis–St. Paul economy should improve as such large employers as Control Data and Cray Research get their problems under control, and as employment grows at the cities' many health care firms. The rise in auto sales now under way will jack up production and hiring at major plants in St. Louis and Kansas City. Chrysler, for example, added a third shift to its St. Louis minivan plant this year.

■ **MOUNTAIN.** This region grew at better than a 2% pace in each of the past two years—pretty sizzling compared with the rest of the country. Now, assisted by the national recovery, growth will accelerate, reaching about 4.5% in 1993, the best of any region. Spurring the Mountain economy along will be people and businesses moving in to take advantage of low costs and open spaces. Last year more than 220,000 net new residents settled in the Mountain states, contributing to a surge in housing permits. Denver, whose allure hit a slick when the energy industry did, is attracting people once again. Nevada's population increased by 27,000 from Californians alone.

On the business side, the Mountain states' development agencies will keep selling their success stories. Says Jeff Thredgold, a KeyCorp economist in Salt Lake City: "We see more and more small manufacturers moving from Southern California to surrounding states where absenteeism is lower, as are taxes and costs like workers' comp." He adds that high-tech companies are most likely to relocate because the cost of transporting their products is not significant. F

CHIEF ECONOMIST *Vivian Brownstein*
STAFF ECONOMIST *Joseph Spiers*
RESEARCH ASSOCIATES *Lenore Schiff and James Aley*
FORTUNE's forecast is produced by this magazine's economists using our own economic model.

By Terence P. Paré

LOOKING FOR THE MARKET'S LEADERS

■ What stocks will lead the market as recovery takes hold? At this stage of the cycle folks usually juice up their returns by shifting out of recession-resistant shares into those that ride up with the economy. Follow that lead too blithely this time around, and you could be in for trouble. Take, for instance, the conventional wisdom about buying capital goods stocks at the onset of an economic upturn.

As the chart below shows, in the six months through May 31, investors in capital goods producers, including equipment and machinery makers, have barely eked out a 2% return. That badly trails the 10% return from Standard & Poor's 500-stock index. In addition to the anemic recovery, the capital goods sector is suffering a sharp cutback in orders from the defense industry. As a result, market watchers say, the group may stay in the starting gate for months to come.

Basic industry stocks, like those of chemical and paper companies, have performed more true to form in recent months, easily beating the market averages as they typically do in recoveries. But even here analysts worry that the group's longevity as a market leader may prove surprisingly short. Earnings for basic industry stocks are expected to rise 28% in 1992, better than the 24% increase expected for companies in the S&P 500 index. Yet investor enthusiasm for these shares has driven the group's price/earnings multiple to a substantial premium, 19.3 times expected 1992 earnings, vs. the S&P 500's multiple of 15.6. That premium, analysts say, is excessive and won't last.

Growth stocks have just about matched the market over the past six and 12 months, but that steady-Eddy performance belies a lot of churning within the group: Since the beginning of the year, McDonald's is up 23%, while Coca-Cola has remained flat. The same holds true for small-cap stocks, which have handily beaten the market over the past six and 12 months. That superior performance masks some big money-losers, notably small-cap health care shares, felled by concerns over possible federal cost controls as well as a flood of new stock offerings.

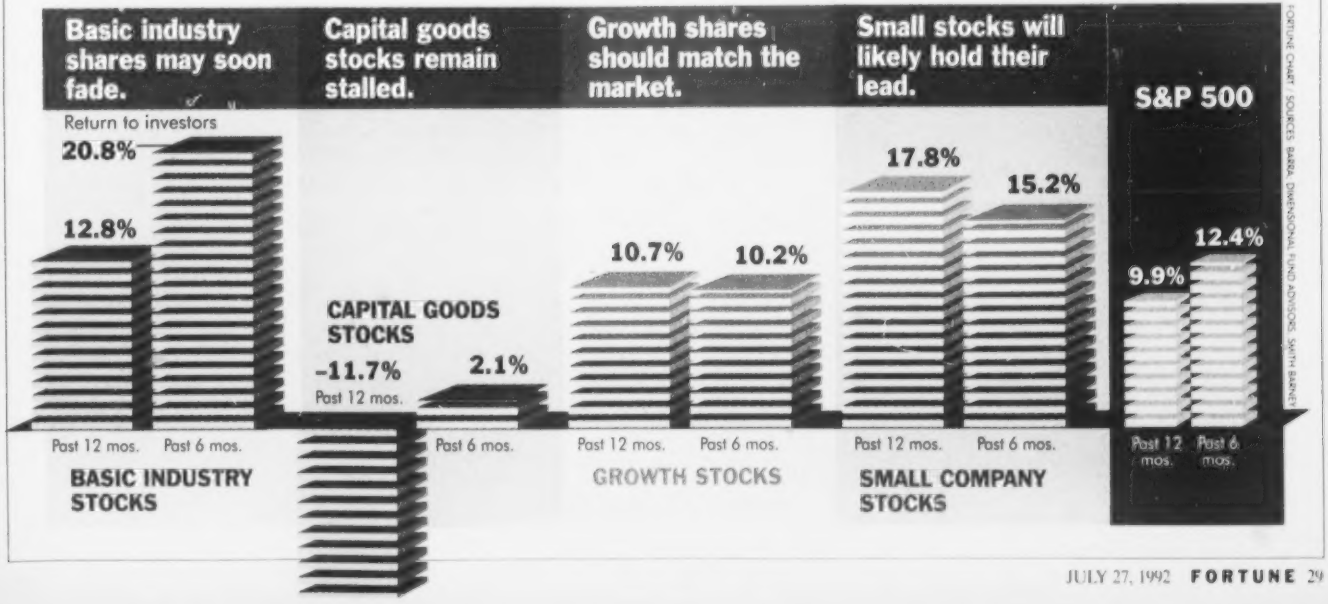
How to make your way in this high-risk territory? Stock by stock, says Marshall Acuff, market strategist at Smith Barney. He expects select stocks from each market sector to do well, though their peers may not. One of his favorites: **International Paper**. The stock is down 10% from its peak in March, partly because of sagging profits from its recession-smitten European operations. But Acuff expects Europe to pick up in early 1993 and from then on to grow faster than the U.S.

In the meantime, International Paper's

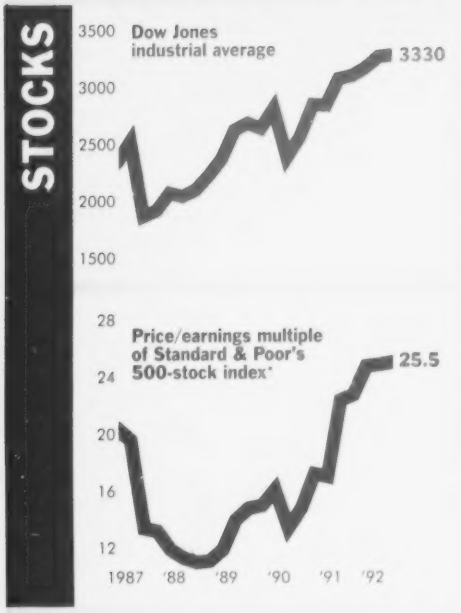
PHILIP GOULD

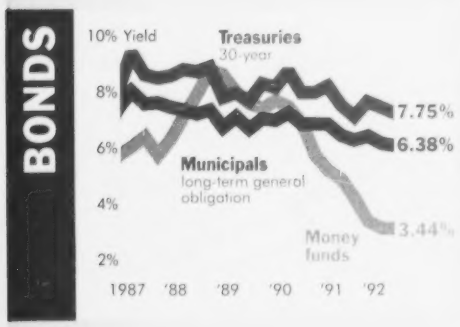
Unlike most other basic industry stocks, shares of International Paper should continue to thrive.

THE CHURNING STOCK MARKET



STATE OF THE MARKETS





FORTUNE CHARTS. CHARTS SHOW END-OF-QUARTER FIGURES.
*BASED ON EARNINGS FOR THE LATEST FOUR QUARTERS.
SOURCES: STANDARD & POOR'S; BOND BUYER; IBC/DONOGHUE'S MONEY FUND REPORT; COMMODITY EXCHANGE

full menu of products, including paper, linerboard, packaging, office supplies, wood pulp, and lumber, allows it to participate fully in the U.S. recovery. Thomas Clephane of Morgan Stanley estimates that the papermaker's operating earnings will leap from about $3.94 a share last year to $4.50 at the end of 1992, giving the stock a P/E of just 15.6. He figures the stock could rise from its recent price of $70 a share to $103 within a year.

Another industry group that should keep advancing is autos. Despite the 50% and better increases in these stocks so far this year, the Big Three should continue to log gains, says Scott Merlis, auto analyst at Morgan Stanley. Vehicle sales are near recession levels, but **General Motors**, **Ford Motor**, and **Chrysler** are all making money, Merlis notes, and they are taking market share back from the Japanese. The Big Three are also producing a more profitable mix of vehicles, stressing light trucks and minivans.

Overall, Merlis expects Chrysler to earn $2.07 a share next year after a small loss in 1992. Based on the 1993 estimate, Chrysler is selling at a P/E of only 10.1. Ford is selling at 9.4 times expected 1993 earnings, and GM is at 9.5. Merlis thinks that GM stock, recently around $43 per share, will hit $65 within a year.

The capital goods sector remains frustrating. If the economic rebound continues to be mild, spending on capital goods is likely to be light. Prudential Securities strategist Greg Smith says that businesses have done a good job of maintaining their machinery, which further eases the pressure to spend on new equipment. And with state and local governments strapped for cash, government spending is unlikely to make up for slack demand in the private sector. In the face of these trends, Smith remains unenthusiastic about capital goods stocks over the near term.

Among the growth stocks are some superior performers. Acuff at Smith Barney thinks **McDonald's** will continue among the golden few, thanks to aggressive expansion overseas. "Big Mac may have one burger stand for every 30,000 people in the U.S.," he says, "but in Brazil, the ratio drops to one stand per 1.8 million people, which leaves plenty of room to grow." McDonald's low-cost fare makes it less vulnerable to the economic problems afflicting many overseas markets. Smith Barney analyst Joseph Doyle expects the company to earn $2.65 per share in 1992 and $3.05 in 1993.

For those fearless few who don't mind wild volatility, the best returns should continue to spring from small stocks. The companies, on average, are less leveraged than bigger outfits in the S&P 500, and they continue to sport faster earnings growth than the overall market. But this is one area where the pros advise individuals not to pick stocks. Given the group's bright prospects, a better bet is to lower your risk by signing on with a well-diversified small-stock mutual fund. Among those with superior long-term records are **Twentieth Century Ultra Investors Fund** (800-345-2021) and **MFS Lifetime Emerging Growth Fund** (800-225-2606).

BOND FUNDS: HOME OF THE HIGH YIELDS

■ Eight percent. Nine percent. Ten percent yields. To an investor whose cash hoard is as fruitless as the Joads' parched homestead in *The Grapes of Wrath*, such whisperings bear the promise of a moisture-laden cloud. After all, with CDs paying about 3.3% and intermediate Treasuries just twice that, it's tough to make your savings grow. But in the vast world of bond funds, enticing yields can be found. The trick is to avoid getting soaked.

The true measure of whether an investor is being paid for risk involves more than yield: It's total return, which includes the money gained or lost on bonds when interest rates change. The funds in this article, culled from Lipper Analytical Services' universe of 2,200 bond funds, boast both high yields and rich total returns over the past three years.

None are as safe as your savings account. Before plunging in, remember that higher yield always invokes higher risk. Unlike CDs or money funds, which generally promise to preserve your principal, bond funds fluctuate in value as interest rates change. The longer the average maturity of the bond portfolio, the greater the volatility. Then, too, there is credit risk to consider. Uncle Sam is not likely to default, but companies with junk bonds aren't so formidable. Finally, there are the fancy finaglings

BACK ON TRACK

A sign that our efforts at Nissan to increase momentum are succeeding ("Driving for the Market's Heart," June 15) is the latest J.D. Power survey, which came out after you went to press. Ranked 19th out of 34 nameplates in 1991, we jumped to fifth this year. And topping the list as the best car line in initial quality is our Infiniti.

THOMAS D. MIGNANELLI
President and CEO, Nissan Motor Corp. in U.S.A.
Gardena, California

ACCOUNTING FOR TAXES

In "Do Americans Pay Enough Taxes?" (June 1), you say that the U.S. government takes some $22,000 from a wealthy family and transfers $8,800 of it to a poor family. What I worry about is not so much the amount transferred to the poor, but the other $13,200. That is what must be reduced to control government spending. And by the way, if Americans feel overtaxed, come on up here. We Canadians have redefined the term.

ROBERT TOROK
Toronto, Ontario

LIFE INSURANCE COMPANY	COMMERCIAL REAL ESTATE ASSETS		
	Total* as of 12/31/91 in millions	Total as a percent of policyholders' surplus	Nonperforming (loans and foreclosed properties) in millions
Prudential of America	$26,221	402%	$811
Metropolitan Life	$23,780	499%	$1,676
Teachers Insurance & Annuity	$21,928	718%	$1,581
Aetna Life	$18,546	1,000%	$1,920
Travelers	$12,283	600%	$3,190
Equitable Life Assurance	$10,717	968%	$715
Connecticut General Life	$9,834	656%	$587
John Hancock Mutual Life	$9,186	581%	$460
New York Life	$6,900	263%	$417
Northwestern Mutual Life	$6,864	415%	$122

*Does not include real estate held in joint ventures or in separate accounts managed for customers

FORTUNE TABLE SOURCE: COMPANY DATA

WOULD YOU *HIRE* THIS MAN?

"And Now, Here's the Man Himself" (June 15) asks, Would you want Ross Perot for your boss? The proper question is, Would you want him as your employee? We do not work for the President; he works for us. While I would never choose to work for Perot, I'd hire him in a minute as senior management.

DAVID ALEX SCHULZ
Dallas

CORRECTION

In "Victims of the Real Estate Crash" (May 18) a table showing commercial real estate assets of large insurers mistakenly included some home and farm assets. The data appear correctly above. F

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CE QUESTION:

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OFFICIAL RESULTS INFORMATION SYSTEM OF THE OLYMPIC GAMES

experts and their product knowledge supports that." CEO Les Alberthal of EDS agrees: "The mind-set of people in a true service environment starts off with 'the customer is always right.' That's a big difference from a partial customer commitment aligned with a commitment to also move your box."

While IBM is pushing in the right direction, Akers has barely confronted the challenge an industry-services approach represents to IBM's old ways of thinking.

SERVICE ON THE FLY

IBM wants to become more customer-friendly. In May it put a pilot on call at a warehouse near Detroit to speed emergency deliveries. Here Dan Burch breakfasts in a makeshift bedroom. When a call comes, he plots his route as Robert Lindsey retrieves a mainframe power unit for a customer in Kalamazoo, Michigan. After driving to Oakland-Pontiac Airport, he loads up and takes off. Total time to delivery: one hour 51 minutes.

EMPHASIZING CUSTOMER SATISFACTION

C+

Big Blue is hardly alone here. It's the vogue of the decade, but IBM's success has been only middling. For years the company was spoiled by customers who would buy only from IBM. Some still do, since a lot of comfort remains in that Big Blue blanket. Says James Cassell, a technology analyst at the Gartner Group: "IBM has had the *Field of Dreams* mentality—'If you build it, they will come.'" But in the ever more real world IBM must compete in, customers are getting tougher and tougher. Says Michael Dell, founder of the mail-order PC company that is the envy of the industry—partly for its intense customer focus: "The people we call the 'Big Blue iceberg' who will only buy IBM are fewer and fewer every year."

Two of the seven measures on which Akers and his corporate colleagues judge and reward the LOB managers are customer satisfaction and quality. That emphasis seems to be making some difference. Les Alberthal of EDS, who claims to be IBM's biggest commercial customer, says a top Big Blue manager, vice president David Thomas, arrived this spring for the first high-level visit in many years. When the job of IBM sales representative to MCI Communications opened up recently, IBM asked MCI senior vice president James Zucco for his recommendation, and his candidate got the job. Says Zucco: "Three years ago they wouldn't have asked."

But is the pace fast enough? At Metropolitan Life Insurance, which spent $54 million on IBM hardware, software, and services last year, top hardware manager Al Giordano frowns when asked if IBM is going in the right direction. "I'm confident, but I don't see all the evidence yet," he says. His software counterpart, John Merrell, adds: "It's the right direction but not fast enough." Nick Donofrio met with both men this year to find out what Met Life's large system needs were likely to be in the next five years and to help focus IBM's product development plans.

LaBant, the man responsible for customer contact in North America, says company

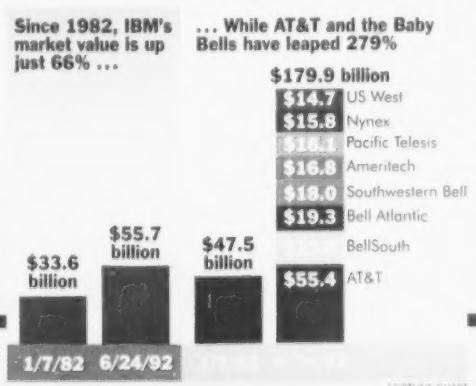
WHAT IF THEY HAD BROKEN UP IBM LIKE AT&T?

Ten years after the U.S. government concluded its historic antitrust cases against IBM and American Telephone & Telegraph, whose stockholders have come out ahead? The seeming winner was IBM, which emerged scot-free from one suit—a victory so smashing that its lawyers gleefully celebrated with champagne. The other case, by contrast, rudely hacked AT&T into eight pieces. AT&T Chairman Charles L. Brown called the settlement "exactly what the government wanted."

Now—a decade later—the investors who stuck by the Bell bunch have bubbly rights, and by a magnum-size margin. Here's the tally:

The market value of AT&T's common stock just before the settlements were announced in January 1982 was $47.5 billion. In late June of this year, the market value of the eight successor companies together—the stripped-down AT&T, plus Ameritech, Bell Atlantic, BellSouth, Nynex, Pacific Telesis, Southwestern Bell, and US West—came to no less than $180 billion. Some of that gain reflects the billions of earnings that the companies have retained: The common stockholders' equity, or book value, of the seven Baby Bells plus AT&T is around $27 billion bigger than AT&T's was before the breakup. So the empire *should* be selling for more than it used to. But most of the gain in market value simply reflects the greater glory investors have accorded the companies. In 1982, AT&T sold for less than book value; today the eight as a whole command more than twice book.

Compare the no-bubbles record of IBM. Its market capitalization at the beginning of 1982 was $34 billion; today it is $56 billion. That $22 billion difference isn't much more than the $17 billion in additional stockholders' equity that IBM's shareholders have at work in the company. In other words, every $1 of additional investment has produced only $1.30 of market value—a terrible result. And that's a good reason why John Akers, with nary a nudge from Washington, is right now bluntly chopping IBM into pieces. **– Carol J. Loomis**



THE WORLD ECONOMY IN CHARTS

■ *by John Labate*

WELCOME TO FORTUNE's annual feature, the World Economy in Charts, 11 pages of graphs and tables that show how nations have performed in the past three years—and where they are likely to head in 1992 and 1993. Our statistics and projections are drawn mostly from the WEFA Group economic consulting firm. They demonstrate that you don't have to look only to the blistering Pacific Rim to find the world's fastest-growing economies. Now they are everywhere, from Latin America to central Asia. Many have kept right on booming through the slowdown that took the wind out of the industrial world's sails in 1991 and 1992. Says Robert S. Gay of Bankers Trust: "The hottest business opportunities are in the emerging countries."

Among the major economies, the U.S., Britain, and Canada hit recessionary bottoms in 1991, while Japan, Germany, and other European nations suffered slowdowns. Their troubles dragged worldwide growth to a halt after eight years of expansion: Global output fell by three-tenths of a percent in 1991, says the International Monetary Fund. Growth is expected to resume, reaching 1.4% this year and 3.6% next.

South Korea, Hong Kong, Singapore, and Taiwan should keep their edge as growth leaders, but the distance between these tigers and everyone else is narrowing. Mexico is well ahead on the road to stable progress in Latin America, with Argentina and Chile following smartly. India has entered a new period of market-driven expansion, and China's southern province of Guangdong has proved a productive marvel, elevating the whole country to hotshot status. The formula for growth is the same around the world: Remove the heavy hand of the state and liberalize trade and capital rules.

The great triumph of economic engineering for the early 1990s has been that continued tight monetary policies held down inflation in both industrial and emerging countries. For most, lower inflation rates should continue into 1993, invigorating competition in many global businesses as managers realize they can't prosper by raising prices. Says Allen W. Shiau, senior vice president of WEFA: "Companies will have to lower costs and improve quality to survive."

The cloud—there's always at least one—is money. Ambitious enterprises everywhere will need it to expand. "There will be intense competition for capital in the 1990s," says Robert D. Hormats, vice chairman of Goldman Sachs International. Real interest rates have been rising in much of the world since the late Eighties, and the scramble for capital as growth picks up could put further upward pressure on them in the next few years.

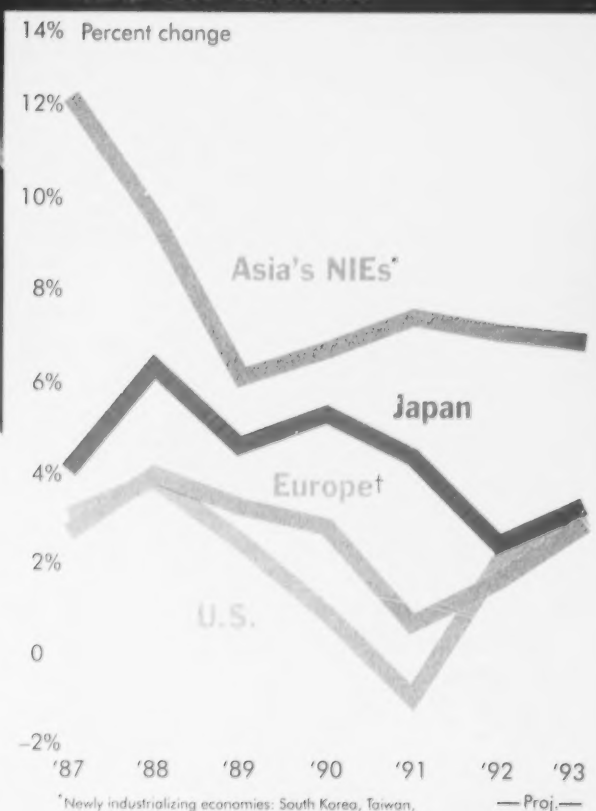
IN THIS SECTION

- THE GLOBAL OVERVIEW 62
- THE HOTSHOTS 66
- HOW THE NATIONS RANK 68
- THE STOCK MARKETS 72
- WHO'S INVESTING WHERE.....74
- SHIFTING TRADE SHARES.....78
- COMPARING HEALTH CARE.....80

ILLUSTRATIONS BY SANDRA DIONISI

THE GLOBAL OVERVIEW

REAL GDP GROWTH

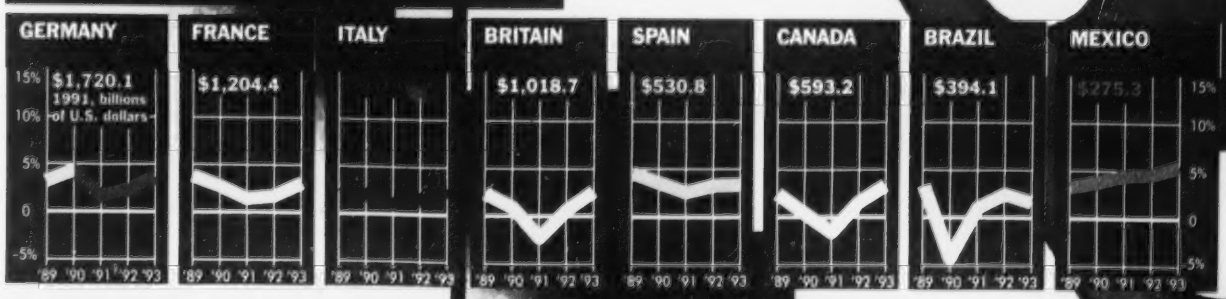


*Newly industrializing economies: South Korea, Taiwan, Hong Kong, Singapore. †12 EC countries.

GETTING IT TOGETHER

Most industrial economies should pull out of their slumps this year, but they are likely to grow much more slowly than they did in the Eighties. That's not entirely bad news, since the growth will be easier to sustain. Though Asia's dynamic four have also slowed, they still set the pace. Any challenge to them will come from new growth champs such as Mexico, India, and Thailand.

GDP AND HOW IT IS GROWING



RTER ASSOCIATE ERICK SCHON

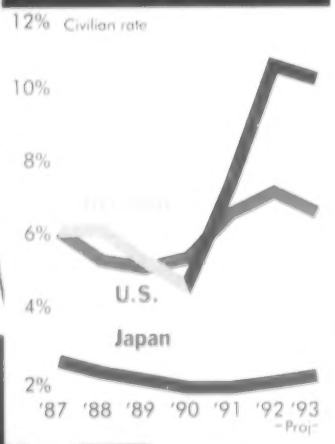
INFLATION

COPING WITH THE PRESSURES

Slower growth was brought about in part by central bankers determined to pull down inflation. They accomplished that goal last year, and most nominal interest rates dropped too. Both inflation and interest will reverse directions as economic activity picks up. Germany, paying a higher price than expected for unification, is still struggling with unemployment, inflation, and deficits, though WEFA expects all three to improve in the coming year.

INTEREST RATES

UNEMPLOYMENT



BUDGETS

ALL FIGURES PROVIDED BY THE WEFA GROUP UNLESS OTHERWISE NOTED

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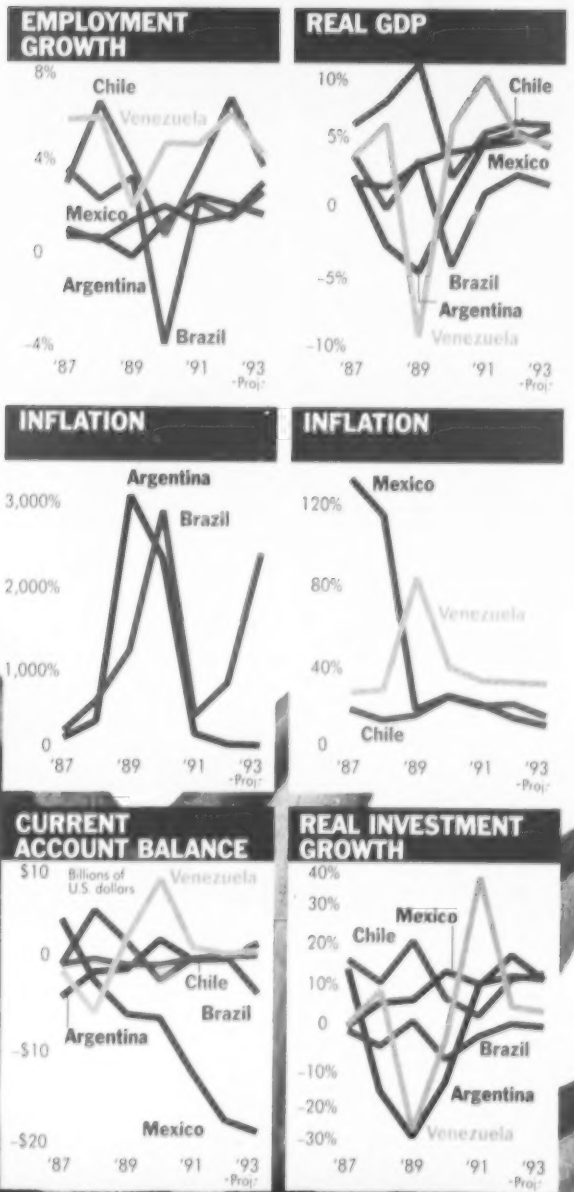
THE HOTSHOTS

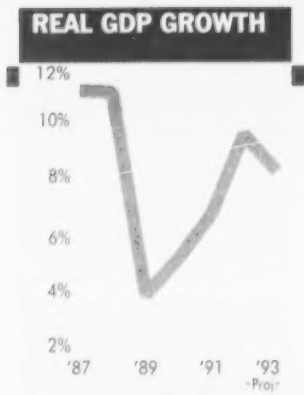


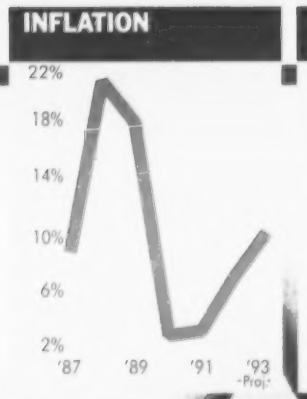
LATIN AMERICA

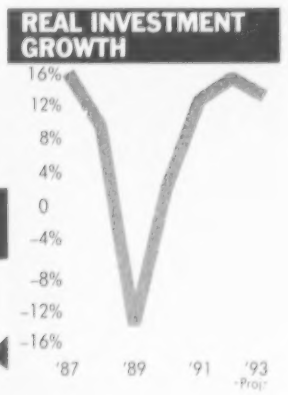
After just a few years of market-oriented reforms, the fires of growth have spread in many Latin American countries. Mexico, Chile, and Argentina, the most committed to change, have come the furthest; Brazil, reluctant to shrink the role of the state, has performed the most erratically. Among the free-market countries, capital flight has given way to an investment surge, part home-grown and part from eager outsiders who want pieces of such newly privatized industries as telecommunications, banks, and electric utilities. Opportunities abound in these markets for exporters of capital equipment and all kinds of consumer goods.

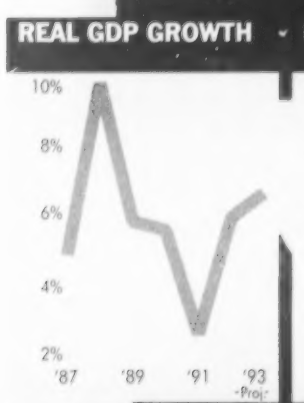
CHINA

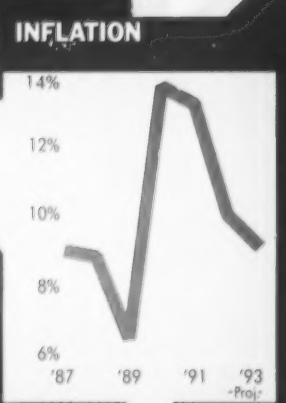
To some investors the shadow of the Tiananmen Square massacre three years ago still looms as a sign to stay away. Reforms have been slow, and most-favored-nation trade status with the U.S. remains elusive. Still, China is in the midst of quite another upheaval, this time one of explosive growth and investment. GDP will climb nearly 10% in 1992. Growth should take a breather in 1993, though wages and prices will keep rising, but strong domestic demand and exports will keep the pace strong.





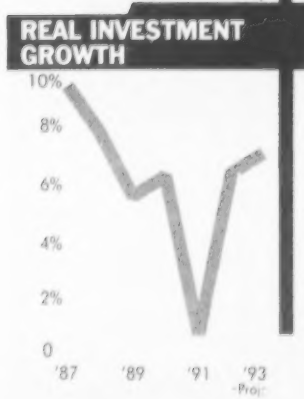






INDIA

Unlike China and many other developing countries, India has a long democratic tradition, and the Bombay stock exchange is the oldest in Asia. But its economy was also stifled for decades by government control. Now reforms aimed at freer markets are spurring growth. "The government is getting off the backs of the people," says Vinod Sethi, manager of the India Magnum Fund at Morgan Stanley. Investment levels, though still low, are rising fast—and India's astonishingly high 21% saving rate is an important resource.



HOW THE NATIONS RANK

	PER CAPITA GDP/GNP adjusted for purchasing power, U.S. dollars, 1989	PER CAPITA GDP/GNP U.S. dollars, 1989	GDP in billions of U.S. dollars, 1991	AVERAGE ANNUAL CHANGE 1987-91	POPULATION in millions, 1991
United Arab Emirates	$23,798	$18,410	$31.38	4.39%	1.67
United States	$20,998	$20,850	$5,673.77	1.95%	252.63
Canada	$18,635	$18,860	$593.15	2.04%	26.93
Switzerland	$18,590	$30,050	$229.48	2.09%	6.81
Norway	$16,838	$20,940	$106.59	1.00%	4.25
Luxembourg	$16,537	$26,220	$8.75	3.30%	0.38
Kuwait	$15,984	$16,160	$10.17	(20.00)%	1.20
Australia	$15,266	$15,400	$299.99	2.51%	17.33
Hong Kong	$15,180	$10,370	$82.68	6.29%	5.89
Singapore	$15,108	$10,350	$39.98	8.97%	2.92
Sweden	$14,817	$21,580	$240.93	1.38%	8.58
Finland	$14,598	$22,120	$129.05	1.65%	4.98
West Germany	$14,507	$20,450	$1,720.11[2]	2.92%	79.74
Japan	$14,311	$24,240	$3,369.19	4.95%	123.89
Iceland	$14,210	$20,940	$6.45	1.24%	0.25
France	$14,164	$17,860	$1,204.41	2.89%	56.47
Denmark	$13,751	$20,740	$128.69	0.91%	5.14
Britain	$13,732	$14,790	$1018.71	2.02%	57.44
Italy	$13,608	$15,120	$1,146.01	2.64%	57.77
Netherlands	$13,351	$15,970	$287.16	2.78%	15.06
Belgium	$13,313	$15,810	$197.43	3.21%	10.01
Austria	$13,063	$17,300	$164.49	3.39%	7.83
Bahamas	$11,293	$11,120	$2.01[1]	11.44%[4]	0.25[1]
New Zealand	$11,155	$11,740	$42.22	(0.11)%	3.37
Bahrain	$10,804	$6,380	$4.43	3.79%	0.52

[1]Based on 1991 estimate. [2]Unified Germany. [3]1988. [4]1984-88. [5]1990.

SOURCES: PENN WORLD TABLE, WORLD BANK, IMF

TWO WAYS TO MEASURE

To compare incomes among countries realistically, you have to adjust for what a given sum of money can buy in each. That's what University of Pennsylvania economists Robert Summers and Alan Heston do with their purchasing-power calculations. But the unadjusted numbers in column two give a better picture of each country's buying power in the world marketplace. Rankings can change abruptly: Rising oil production has pushed the United Arab Emirates to the top of the list.

THE STOCK MARKETS

Most stock exchanges survived the industrial world's economic slowdown. But the exceptions were significant. After a pause in May, the Tokyo market's long slide resumed, and the Nikkei index hit a 5½-year low in late June. Mexico also took a dive after a growth streak that had more than doubled market capitalization over the past year.

DEVELOPED MARKETS	MARKET CAPITALIZATION May 31, 1992 in billions (est.)	ANNUAL GROWTH RATE (1988–91)
United States	$3,752	14.2%
Japan	$2,359	(1.5%)
Britain	$1,070	9.3%
Germany	$389	12.7%
France	$384	15.6%
Hong Kong	$171	17.0%
EMERGING MARKETS		
Mexico	$139.3	74.5%
Taiwan	$130.7	19.3%
Korea	$89.6	4.7%
Malaysia	$65.9	15.4%
Brazil	$62.9	26.4%
Thailand	$39.8	24.5%
Argentina	$24.9	93.3%

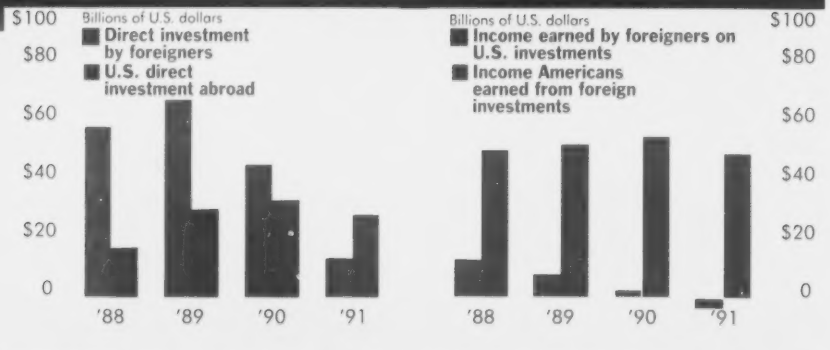
SOURCE: MORGAN STANLEY CAPITAL INTERNATIONAL

WHO'S INVESTING WHERE

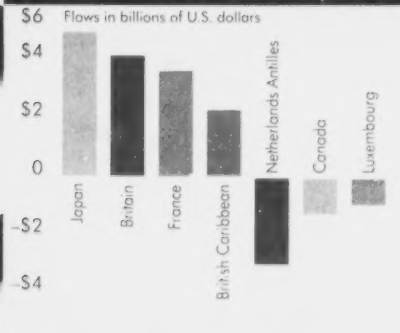
Investors have more choices than ever in a world of mounting demand for money and increasingly efficient flows of information and capital. So when the U.S. economy tanked, foreigners had no trouble finding better places to put their funds. Some even disinvested, for example, by drawing more dividends out of American operations than they earned. Though the swelling U.S. debt became a political issue in America, it didn't seem to bother foreigners: their holdings of Treasury securities remained fairly constant at 12%.

Conventional wisdom holds that the global thirst for capital will drive up interest rates once growth in the industrial world revives. Perhaps, but contrarians argue that any shortage will simply direct money into the most efficient investments. Brookings Institution senior fellow Barry P. Bosworth maintains that many of the fast-growing countries will draw on high domestic saving rates—including capital making a round trip from its flight into Swiss banks in the no-growth years. He also believes that the industrial economies will not grow as fast as in the past and will not need as much capital

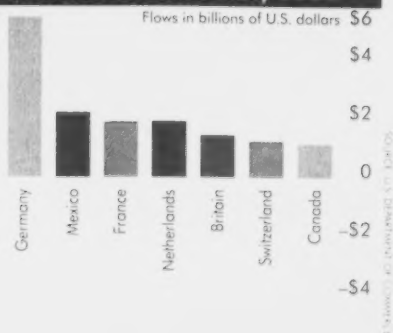
HOW THE CAPITAL FLOWS



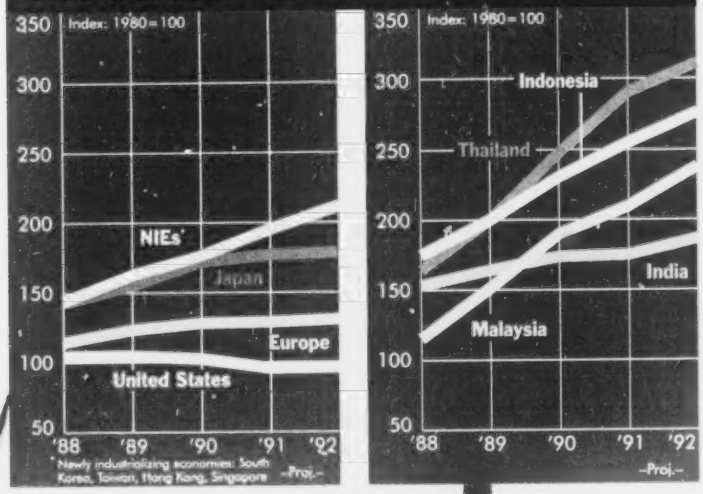
DIRECT FOREIGN INVESTMENT IN THE U.S., 1991



DIRECT INVESTMENT ABROAD BY THE U.S., 1991



GROWTH IN REAL FIXED INVESTMENT



FIXED INVESTMENT AS A PERCENT OF GDP Five-year average	
Indonesia	32.9%
Japan	32.1%
Malaysia	25.8%
Thailand	25.2%
NIEs	23.9%
Europe	20.2%
India	19.0%
United States	15.5%

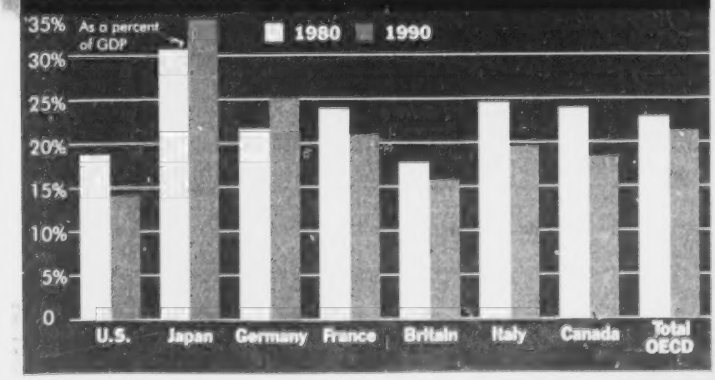
THE LAST SHALL BE FIRST

The economic slowdown trimmed investment in new equipment and plants for much of the industrial world. But the emerging economies of Asia and Latin America have too much momentum these days to be derailed by the malaise of the big countries.

THE SAVINGS SHORTFALL

These seven major countries within the Organization for Economic Cooperation and Development (OECD) supply much of the world's investment capital. But only Japan and Germany have lifted their national saving rates over the past decade. Rising consumption and swelling government deficits knocked rates down in the others.

NATIONAL SAVING RATES



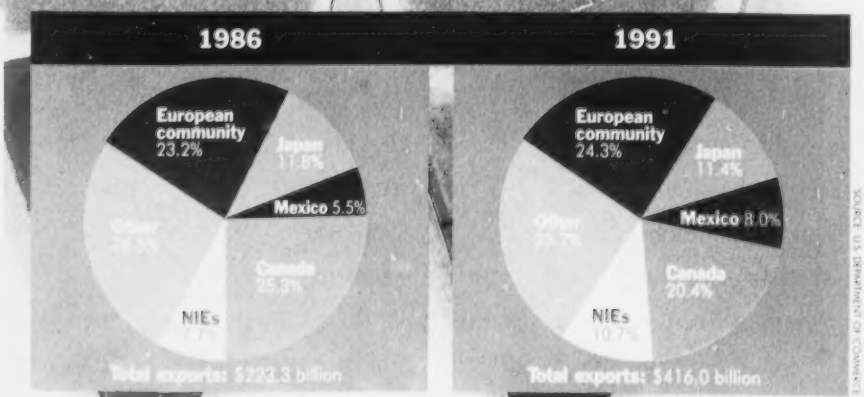
WHO FINANCES U.S. GOVERNMENT DEBT	
U.S. holdings	$3,362.7 billion
Foreign holdings	$457.7 billion
Total federal debt	$3,820.4 billion
LARGEST FOREIGN HOLDINGS	
Britain	$57.5 billion
Japan	$53.5 billion
Germany	$48.0 billion
Spain	$32.0 billion
Switzerland	$29.7 billion

SHIFTING TRADE SHARES

The Nineties have brought a new set of trade trends. The U.S. reversed its slippage as an exporter, helped by more competitive industries, the weaker dollar, and the growth of markets in developing countries—including some old ones it lost when Latin America collapsed a decade ago. Robert S. Gay of Bankers Trust estimates that U.S. exports to Asia and Latin America will grow 15% to 20% this year. Unified Germany is drawing in more imports, a shift reflected in its current account balance. One continuing trend: the increasing importance of Asia's newly industrializing economies in world trade, especially with Japan.

WHERE U.S. EXPORTS GO

Developing countries account for a fast-growing wedge of America's expanding export pie. Canada's share has shrunk, although it is still the largest.



SOURCE: U.S. DEPARTMENT OF COMMERCE

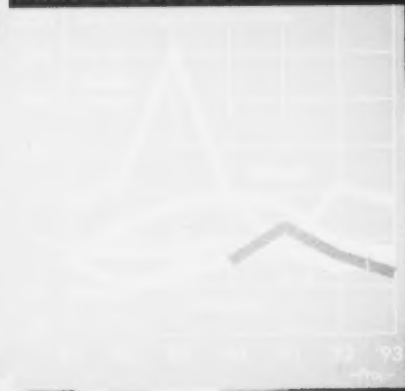
SHARES OF WORLD TRADE

WHO SELLS, WHO BUYS

Though Japan takes the heat for aggressive exporting, the Asian NIEs have collectively captured a larger share of world markets. One big difference: They also import more.

THE DOLLAR

UNIT LABOR COSTS



CHILLING OUT

Exchange rates have mostly settled down, and with prices in check, labor costs have eased. Japan's productivity growth slowed markedly because it lays off fewer people in hard times.

CURRENT ACCOUNTS

PRODUCTIVITY GROWTH

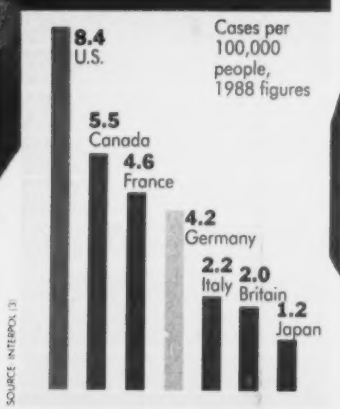
*Per 1,000 live births. **Adjusted for purchasing power, 1990 U.S. dollars. [1]1989. [2]1988. [3]1986.

HEALTH CARE AT A GLANCE

1990 figures	Life expectancy male/female	Infant mortality rate*	Per capita health expenditures**	Health expenditures as a % of GDP	Doctors per 1,000 people	Average days in-patient care[1]
Japan	75.9/81.8[1]	4.6	$1,171	6.5%	1.6	51.4
Canada	73.0/79.7[2]	7.2[2]	$1,730	9.0%	2.2	13.0
Britain	72.8/78.4[1]	7.9	$974	6.2%	1.4	14.8
France	72.7/80.9	7.2	$1,543	8.9%	2.6	12.8
Italy	72.6/79.1[1]	8.5	$1,234	7.7%	1.3[3]	11.7
Germany	72.6/79.0[1]	7.5[1]	$1,487	8.1%	3.0	16.2
U.S.	72.1/79.0	9.2	$2,566	12.4%	2.3	9.2

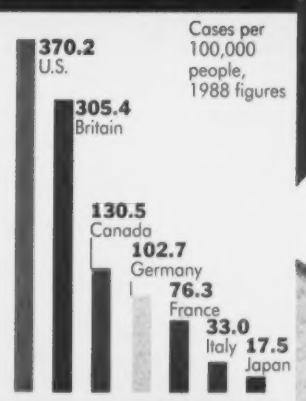
SOURCE: OECD

HOMICIDE

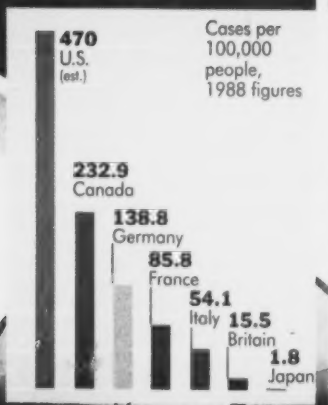


SOURCE: INTERPOL (3)

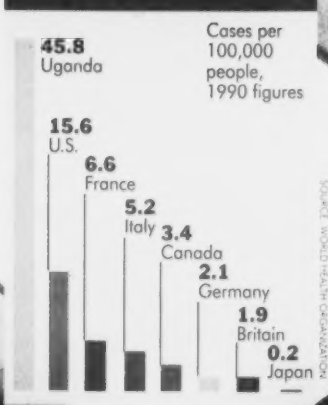
SERIOUS ASSAULT



DRUG OFFENSES



AIDS CASE RATE



SOURCE: WORLD HEALTH ORGANIZATION

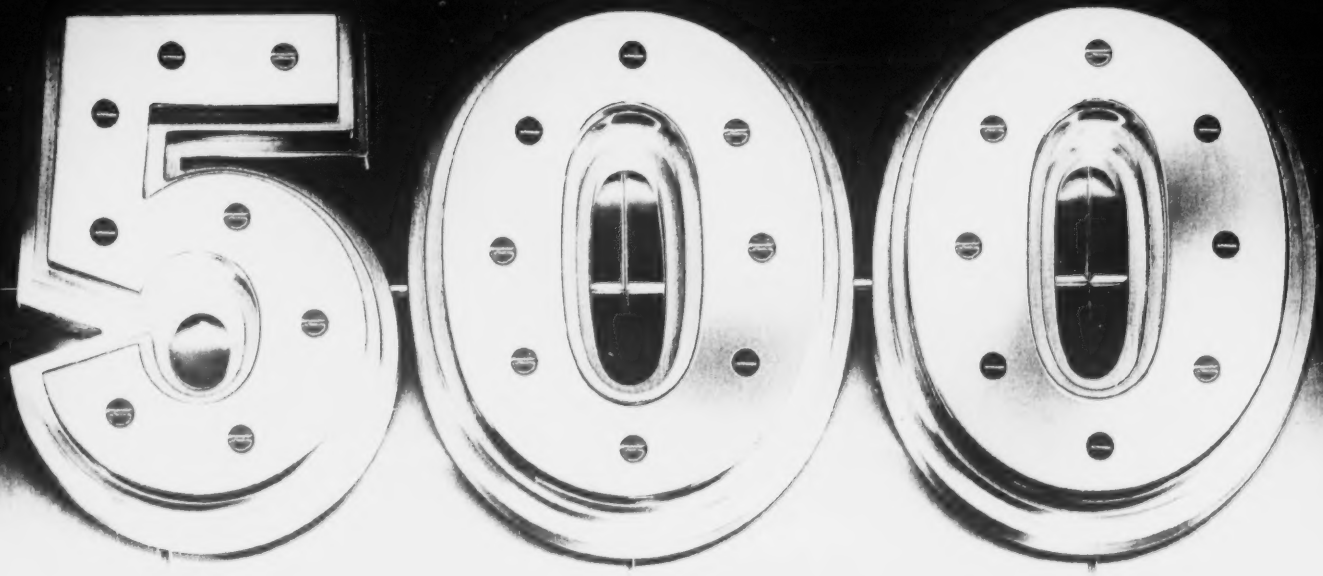
COMPARING HEALTH CARE

It's easy to see why health care is one of the most wrenching issues in the U.S. when you compare costs and benefits with those of other industrial societies. The U.S. pays the most in both per capita terms and as a share of GDP, and gets the lowest life expectancy and highest infant mortality rates.

Hardly anyone disputes that the U.S. system is wasteful and managerially backward. But America also pays a price for trying hard—for example, its infant mortality rate is high partly because no other country works harder to save high-risk premature and underweight babies. Nor do any others spend more to develop advanced technologies. The international comparisons also reveal another culprit. "The burden of social problems on health care in the U.S. far exceeds that of any other developed country," says Leroy L. Schwartz, a medical doctor who heads Health Policy International, a Princeton, New Jersey, research group. Murders, violence, drug-exposed infants—the U.S. leads in all three categories and also has the highest rate of AIDS infection in the developed world. F

FORTUNE

GUIDE TO THE GLOBAL



THE 500 RANKED BY
SALES

Here are the largest industrial corporations in the world. Turn the page for an overview; the rankings follow. Definitions, explanations, footnotes, and arrivals and departures can be found on page 191.

PAGE 179

THE 500 RANKED BY
PERFORMANCE

In a dismal year that saw total earnings decline, which companies did best? This section ranks the top 50 companies according to profits, increases in sales, returns on sales and assets, and other measures.

PAGE 192

THE 500 RANKED WITHIN
INDUSTRIES

We divide the Global 500 into 26 industries, from aerospace to transportation equipment. The lists show how each company stacks up against its competitors in sales, profits, and returns on sales and assets.

PAGE 196

THE 500 RANKED WITHIN
COUNTRIES

The U.S. has the most companies, with 157. Japan is No. 2, with 119. Britain, Germany, and France are next. This listing ranks companies within each country and gives the headquarters city and phone number.

PAGE 218

INDEX TO ALL 500 COMPANIES.....230

THE GLOBAL **500** THE WORLD'S LARGEST INDUSTRIAL CORPORATIONS

IT WAS A BAD YEAR EVERYWHERE

The pain was global in 1991. FORTUNE's unique list of the world's 500 largest industrial companies shows with few exceptions that the year was bad for business everywhere. Total sales, measured in dollars, rose just 2.6%, less than inflation in most of the world. Profits took a sickening dive, off more than 28% from 1990, which was already down 17% from the year before. The total number of employees dwindled for the third straight year. And 73 companies lost money, up from 34 in 1990.

The English-speaking countries, from Australia and New Zealand to Britain and the U.S., shared one big unhappy recession, punctuated by losses at some of America's bluest blue-chip companies. General Motors reported the largest loss ever by a company not owned by its government, while Ford had the biggest loss in its history. Australia's once proud Bond Corp. sailed into receivership, and helmsman Alan Bond was jailed for fraud. The Scandinavians had it rough too, as trade with the former Soviet Union dwindled. Nokia of Finland, Europe's biggest manufacturer of cellular telephones and third-largest maker of color TVs, had to sell its computer unit to a subsidiary of Fujitsu.

Some countries

continued

COUNTRIES WITH THE MOST COMPANIES

COUNTRY	NUMBER OF COMPANIES ON LIST
United States	157
Japan	119
Britain	43
Germany	33
France	32
Sweden	14
South Korea	13
Switzerland	10
Australia	9
Canada	9

LARGEST COMPANY IN COUNTRY	GLOBAL 500 RANK
General Motors	1
Toyota Motor	5
British Petroleum	9
Daimler-Benz	10
Elf Aquitaine	25
Volvo	88
Samsung Group	18
Nestlé	26
Broken Hill Proprietary	104
Northern Telecom	174

For the 500 by country, see page 218.

THE 500's RECORD

	1991	VS. 1990
SALES		
Billions	$5,188.1	$5,058.6
% change	2.6%	10.2%
PROFITS		
Billions	$128.5	$179.0
% change	(28.2%)	(16.7%)
EMPLOYEES		
Number	26,181,795	26,637,790
% change	(1.7%)	(0.6%)

LEADERS AND LAGGARDS: THE 500's BIGGEST

SALES	GLOBAL 500 RANK	Billions
General Motors U.S.	1	$123.8
Royal Dutch/Shell Group Britain/Netherlands	2	$103.8
Exxon U.S.	3	$103.2

MONEY MAKERS		Billions
Exxon U.S.	3	$5.6
Royal Dutch/Shell Group Britain/Netherlands	2	$4.2
Toyota Motor Japan	5	$3.1

MONEY LOSERS	GLOBAL 500 RANK	Billions
General Motors U.S.	1	($4.5)
Intl. Business Machines U.S.	6	($2.8)
Ford Motor U.S.	4	($2.3)

PROFIT INCREASES		Percent
Campbell Soup U.S.	232	9,025%
Baxter International U.S.	156	1,378%
Alps Electric Japan	417	1,246%

PROFIT DECREASES		Percent
Chrysler U.S.	31	(1,269%)
Entr. Minière & Chimique Belgium	485	(1,268%)
Owens-Corning Fiberglas U.S.	488	(1,116%)

SALES INCREASES		Percent
Rothmans International Britain	318	71%
Arjo Wiggins Appleton Britain	317	65%
Sasol South Africa	450	58%

SALES DECREASES		Percent
Occidental Petroleum U.S.	131	(53%)
Whitman U.S.	473	(32%)
Nokia Finland	347	(31%)

For the 500 by performance, see page 192.

got through their fiscal years before hitting the wall of recession. The slowdown in Japan was just beginning in 1991; Japan's leading companies had fairly good results. French businesses had a good year too, except for government-owned Entreprise Minière & Chimique, which took a loss for restructuring. German results benefited from the glow of unification: a strong mark made them look better when converted into dollars.

The biggest increase in sales came from Rothmans International of Britain, up 71% to $4.4 billion. The company consolidated some subsidiaries in Ireland and the Pac Rim. Other companies involved in restructurings, including Occidental Petroleum and Whitman, saw their sales shrink as they sold off assets and retrenched. The few companies that posted striking profit growth, including Campbell Soup's 9,025% rise and Alps Electric's 1,246% increase, did so based on minuscule profits the year before.

Want some good news? The U.S. is coming out of recession even as Japan goes in. Since American companies account for 157 of the 500, vs. 119 for Japan, the U.S. giants should give the whole list—and indeed the whole world—quite a lift next year.

–Wilton Woods

BIGGEST COMPANIES IN THE WORLD BY INDUSTRY

Companies are listed in the business that contributes the largest share of their industrial sales.

INDUSTRY	COMPANY GLOBAL 500 RANK	COUNTRY	COMPANY SALES $ millions
Aerospace	**Boeing** 32	U.S.	$29,314
Apparel	**Levi Strauss Associates** 291	U.S.	$4,903
Beverages	**PepsiCo** 54	U.S.	$19,771
Building materials	**Saint-Gobain** 92	France	$13,311
Chemicals	**E.I. du Pont de Nemours** 22	U.S.	$38,031
Computers, office equip.	**IBM** 6	U.S.	$65,394
Electronics, electrical equip.	**General Electric** 8	U.S.	$60,236
Food	**Philip Morris** 14	U.S.	$48,109
Forest products	**International Paper** 102	U.S.	$12,703
Furniture	**Johnson Controls** 309	U.S.	$4,566
Industrial and farm equip.	**ABB Asea Brown Boveri** 33	Switzerland	$28,883
Jewelry, watches	**Seiko** 443	Japan	$3,070
Metal products	**Pechiney** 95	France	$13,198
Metals	**IRI** 7	Italy	$64,096
Mining, crude-oil production	**Ruhrkohle** 75	Germany	$14,902
Motor vehicles and parts	**General Motors** 1	U.S.	$123,780
Petroleum refining	**Royal Dutch/Shell Group** 2	Brit./Neth.	$103,835
Pharmaceuticals	**Johnson & Johnson** 106	U.S.	$12,447
Publishing, printing	**Bertelsmann** 152	Germany	$9,104
Rubber and plastic products	**Bridgestone** 93	Japan	$13,226
Scientific and photo equip.	**Eastman Kodak** 55	U.S.	$19,649
Soaps, cosmetics	**Procter & Gamble** 38	U.S.	$27,406
Textiles	**Toray Industries** 220	Japan	$6,666
Tobacco	**RJR Nabisco Holdings** 73	U.S.	$14,989
Toys, sporting goods	**Yamaha** 373	Japan	$3,654
Transportation equipment	**Hyundai Heavy Industries** 213	S. Korea	$6,823

For the 500 by industry, see page 196.

Research Associate: Cindy Kano

THE WORLD'S LARGEST INDUSTRIAL CORPORATIONS

1991	1990			SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank	EMPLOYEES Number	EMPLOYEES Rank	Industry table number
1	1	GENERAL MOTORS	U.S.	123,780.1	1.1	(4,452.8)	490	—	184,325.5	1	27,327.6	6	756,300	1	17
2	2	ROYAL DUTCH/SHELL GROUP	BRITAIN/NETH.	103,834.8*	3.1	4,249.3	2	(34.0)	105,307.7	4	53,890.1	1	133,000	41	18
3	3	EXXON	U.S.	103,242.0*	2.5	5,600.0	1	11.8	87,560.0	6	34,927.0	4	101,000	64	18
4	4	FORD MOTOR	U.S.	88,962.8	9.5	(2,258.0)	488	(362.5)	174,429.4	2	22,690.3	8	332,700	8	17
5	6	TOYOTA MOTOR	JAPAN	78,061.3	21.0	3,143.2	3	5.0	65,178.7	8	33,197.6	5	102,423	62	17
6	5	INTL. BUSINESS MACHINES	U.S.	65,394.0	5.3	(2,827.0)	489	(147.0)	92,473.0	5	37,006.0	3	344,553	6	6
7	7	IRI	ITALY	64,095.5	4.3	(254.1)	459	(127.4)	N.A.		N.A.		407,169	3	15
8	10	GENERAL ELECTRIC	U.S.	60,236.0	3.1	2,636.0	5	(38.7)	168,259.0	3	21,683.0	9	284,000	12	7
9	8	BRITISH PETROLEUM	BRITAIN	58,355.0	2.0	802.8	55	(70.9)	59,323.9	11	16,648.5	14	111,900	54	18
10	11	DAIMLER-BENZ	GERMANY	57,321.3	5.6	1,129.4	30	8.4	49,811.8	13	11,996.1	23	379,252	5	17
11	9	MOBIL	U.S.	56,910.0*	3.2	1,920.0	8	(0.5)	42,187.0	22	17,534.0	12	67,500	99	18
12	12	HITACHI	JAPAN	56,053.3	10.6	1,629.2	16	10.3	60,641.0	10	19,993.9	10	309,757	9	7
13	17	MATSUSHITA ELECTRIC INDUSTRIAL	JAPAN	48,595.0	11.7	1,832.5	10	11.1	62,312.5	9	24,429.2	7	210,848	17	7
14	15	PHILIP MORRIS	U.S.	48,109.0*	8.5	3,006.0	4	(15.1)	47,384.0	14	12,512.0	21	166,000	25	8
15	13	FIAT	ITALY	46,812.0	(2.0)	898.7	46	(33.3)	69,736.4	7	18,531.2	11	287,957	11	17
16	16	VOLKSWAGEN	GERMANY	46,042.2	5.3	665.5	65	2.1	46,111.8	16	9,294.1	36	265,566	13	17
17	24	SIEMENS	GERMANY	44,859.2	14.4	1,135.2	29	24.3	41,785.0	23	10,408.1	30	402,000	4	7
18	14	SAMSUNG GROUP	SOUTH KOREA	43,701.9	4.4	347.3	126	4.1	43,290.3	19	5,835.8	74	187,377	20	7
19	20	NISSAN MOTOR	JAPAN	42,903.7	6.7	340.9	128	(57.8)	45,916.4	17	12,662.9	20	138,326	37	17
20	21	UNILEVER	BRITAIN/NETHERLANDS	41,262.3	3.2	1,842.6	9	29.2	25,340.3	43	13,299.0	19	298,000	10	8
21	18	ENI	ITALY	41,047.3	(1.7)	872.0	48	(48.6)	N.A.		14,158.5	17	N.A.		18
22	22	E.I. DU PONT DE NEMOURS	U.S.	38,031.0*	4.5	1,403.0	22	39.3	36,117.0	26	16,739.0	13	133,000	40	5
23	19	TEXACO	U.S.	37,551.0	(8.9)	1,294.0	26	(10.8)	26,182.0	41	9,828.0	33	40,181	186	18
24	23	CHEVRON	U.S.	36,795.0	6.3	1,293.0	27	(40.1)	34,636.0	27	14,739.0	16	55,123	128	18
25	26	ELF AQUITAINE	FRANCE	36,315.8	10.3	1,737.1	12	(11.0)	46,539.7	15	16,505.7	15	86,900	77	18
26	25	NESTLE	SWITZERLAND	35,583.7	6.7	1,722.3	14	5.4	28,732.3	37	11,149.5	26	201,139	18	8
27	29	TOSHIBA	JAPAN	33,232.5	10.1	855.4	49	(7.3)	39,334.1	25	8,383.7	40	162,000	27	6
28	38	HONDA MOTOR	JAPAN	30,567.3	12.9	539.8	83	(5.6)	21,005.2	55	7,736.2	46	85,500	78	17
29	28	PHILIPS ELECTRONICS	NETHERLANDS	30,217.6	(2.1)	642.8	70	—	29,087.4	35	6,735.4	61	240,000	14	7
30	30	RENAULT	FRANCE	29,432.4	(8.1)	545.8	82	145.6	41,375.4	24	6,432.3	65	147,195	32	17
31	27	CHRYSLER	U.S.	29,370.0	4.9	(795.0)	483	(1,269.1)	43,076.0	20	6,184.0	68	126,500	44	17
32	36	BOEING	U.S.	29,314.0	6.2	1,567.0	18	13.1	15,784.0	86	8,093.0	43	159,100	28	1
33	35	ABB ASEA BROWN BOVERI	SWITZERLAND	28,883.0	4.3	587.0	78	109.6	30,754.0	33	4,753.0	100	214,399	15	11
34	34	HOECHST	GERMANY	28,468.2	2.6	661.8	67	(28.6)	23,498.0	50	7,813.2	45	179,332	22	5
35	31	PEUGEOT	FRANCE	28,403.3	(6.5)	979.9	39	(42.4)	23,466.6	51	9,955.3	31	156,800	29	17
36	38	ALCATEL ALSTHOM	FRANCE	28,390.7	4.7	1,095.9	33	16.2	44,485.1	18	8,450.4	38	213,100	16	7
37	32	BASF	GERMANY	28,130.4	(3.6)	627.0	73	(8.4)	24,652.8	46	9,571.5	34	129,434	42	5
38	41	PROCTER & GAMBLE	U.S.	27,406.0	12.4	1,773.0	11	10.7	20,468.0	58	7,736.0	47	94,000	70	23
39	40	NEC	JAPAN	26,675.4	9.4	384.9	113	(35.5)	27,948.3	38	6,265.5	67	117,994	51	7
40	51	SONY	JAPAN	26,581.4	27.0	825.1	52	14.6	32,734.7	29	10,500.8	29	112,900	53	7
41	33	AMOCO	U.S.	25,604.0*	(9.5)	1,484.0**	20	(22.4)	30,510.0	34	14,156.0	18	54,120	131	18
42	39	BAYER	GERMANY	25,581.3	(1.8)	1,100.5	32	(5.4)	24,945.4	44	10,736.2	27	164,200	26	5
43	45	DAEWOO	SOUTH KOREA	25,362.6	13.9	N.A.		—	N.A.		N.A.		81,607	82	7
44	42	TOTAL	FRANCE	25,361.7	5.7	1,030.3	38	34.7	21,954.8	53	7,423.1	52	56,158	124	18
45	43	PDVSA	VENEZUELA	24,000.0	2.3	N.A.		—	14,000.0	102	8,000.0	44	52,000	145	18
46	49	MITSUBISHI ELECTRIC	JAPAN	23,976.3	12.9	564.5	81	5.0	23,599.3	49	5,634.7	80	97,002	69	7
47	50	NIPPON STEEL	JAPAN	23,141.6	9.4	641.8	71	(21.5)	31,358.0	32	7,445.3	51	54,062	132	15
48	48	THYSSEN	GERMANY	22,465.0	4.5	294.1	158	(34.8)	14,327.1	100	2,929.2	164	148,557	31	15
49	44	IMPERIAL CHEMICAL INDUSTRIES	BRITAIN	22,339.4	(4.3)	958.4	42	(19.9)	20,554.0	57	8,941.9	37	128,600	43	5
50	47	UNITED TECHNOLOGIES	U.S.	21,262.0	(2.4)	(1,021.0)	485	(236.0)	15,985.0	83	3,961.0	120	185,100	21	1

Footnotes, definitions, and concepts underlying the figures in this directory are on page 191

CONTINUED

THE GLOBAL

500

THE WORLD'S LARGEST INDUSTRIAL CORPORATIONS

51-100

1991	1990			SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank	EMPLOYEES Number	EMPLOYEES Rank	Industry table number
51	63	FUJITSU[3]	JAPAN	21,226.2	18.1	580.1	79	(3.8)	26,580.2	40	8,245.4	41	145,872	34	6
52	54	ROBERT BOSCH	GERMANY	20,271.5	1.5	298.8	153	(13.0)	15,952.0	84	4,602.4	104	177,123	23	17
53	68	MITSUBISHI MOTORS[3]	JAPAN	20,109.9	20.1	182.2	216	23.8	14,506.5	96	2,543.9	189	40,313	184	17
54	63	PEPSICO	U.S.	19,771.2	11.1	1,080.2	35	0.3	18,775.1	65	5,545.4	82	338,000	7	3
55	58	EASTMAN KODAK	U.S.	19,649.0	3.0	17.0	405	(97.6)	24,170.0	48	6,104.0	71	133,200	39	22
56	73	CONAGRA[5,13]	U.S.	19,504.7	25.7	311.2	140	34.3	9,420.3	164	1,817.4	261	74,718	86	8
57	67	MAZDA MOTOR[3]	JAPAN	19,321.5	14.2	186.9	209	14.5	10,968.0	135	2,936.7	163	29,578	255	17
58	52	DOW CHEMICAL	U.S.	19,305.0	(3.5)	942.0	43	(31.9)	24,727.0	45	9,441.0	35	62,219	110	5
59	56	PEMEX (PETRÓLEOS MEXICANOS)[6]	MEX.	19,165.2	(0.9)	652.2	68	(34.9)	50,788.5	12	40,393.2	2	166,896	24	18
60	57	BRITISH AEROSPACE	BRITAIN	18,983.1	(1.8)	(178.6)	455	(138.5)	17,559.1	72	5,032.6	90	123,200	46	1
61	61	INI[6]	SPAIN	18,955.9	4.8	(574.9)	473	(659.9)	42,256.0	21	9,879.5	32	140,925	35	11
62	70	MCDONNELL DOUGLAS	U.S.	18,718.0	14.5	423.0	104	38.2	14,841.0	93	3,877.0	125	109,123	57	1
63	69	MITSUBISHI HEAVY INDUSTRIES[3]	JAPAN	18,631.9	13.6	684.3	64	45.1	25,772.6	42	6,631.1	63	58,041	119	11
64	65	BMW (BAYERISCHE MOTOREN WERKE)	GER.	18,002.3	4.1	460.9	95	7.8	16,713.8	77	4,141.0	117	74,385	87	17
65	81	NIPPON OIL[3]	JAPAN	17,836.5[4]	21.6	171.6	220	9.3	18,970.4	64	3,887.9	124	9,531	446	18
66	60	XEROX	U.S.	17,830.0	(3.0)	454.0	99	86.8	31,658.0	31	5,203.0	87	109,400	56	22
67	59	ATLANTIC RICHFIELD	U.S.	17,683.0	(6.0)	709.0	61	(64.7)	24,492.0	47	6,832.0	60	27,500	273	18
68	66	PETROFINA	BELGIUM	17,650.9	2.1	477.2	91	(26.6)	11,536.2	127	3,935.1	121	17,069	383	18
69	64	USINOR-SACILOR[6]	FRANCE	17,232.5	(2.3)	(537.7)	471	(192.6)	20,194.8	59	4,556.1	105	97,845	68	15
70	55	USX[14]	U.S.	17,163.0[4]	(11.8)	(578.0)[5]	474	(170.7)	17,039.0	75	4,987.0	93	46,996	159	18
71	72	REPSOL[6]	SPAIN	16,214.4	2.8	759.9	57	14.4	13,223.3	107	4,608.7	103	20,848	339	18
72	75	PREUSSAG[7]	GERMANY	15,640.3	4.3	306.9	145	25.1	8,188.4	187	1,715.9	279	71,654	91	15
73	87	RJR NABISCO HOLDINGS	U.S.	14,989.0	8.0	368.0	117	—	32,131.0	30	8,419.0	39	56,000	126	25
74	80	CIBA-GEIGY	SWITZERLAND	14,966.9	3.4	892.5	47	20.1	20,887.3	56	11,987.5	24	91,665	71	5
75	82	RUHRKOHLE	GERMANY	14,901.7	5.1	40.2	374	(42.3)	17,374.4	73	1,080.0	364	122,469	47	16
76	81	RHÔNE-POULENC[6]	FRANCE	14,863.4	(1.3)	355.4	122	(0.4)	21,808.1	54	4,858.1	99	90,000	72	5
77	107	IDEMITSU KOSAN[3]	JAPAN	14,802.2[4]	22.5	36.8	378	33.9	12,180.1	115	585.3	445	8,178	454	18
78	77	GRAND METROPOLITAN[8]	BRITAIN	14,720.7[4]	(0.3)	327.6	133	(64.9)	16,095.6	82	7,008.0	58	122,178	48	8
79	74	MANNESMANN	GERMANY	14,669.9	(2.8)	237.4	182	(19.2)	12,939.8	108	3,793.3	127	125,188	45	11
80	91	AUSTRIAN INDUSTRIES[6]	AUSTRIA	14,548.1	7.1	23.5	395	(66.4)	17,827.5	71	2,655.7	183	78,689	85	15
81	92	HEWLETT-PACKARD[9]	U.S.	14,541.0	9.9	755.0	59	2.2	11,973.0	118	7,269.0	56	89,000	73	6
82	85	FERRUZZI FINANZIARIA	ITALY	14,351.2	(2.8)	92.8	304	(55.2)	32,926.8	28	2,862.1	170	44,949	167	8
83	104	CANON	JAPAN	14,245.2	16.7	387.7	112	(8.6)	16,713.4	78	5,345.9	84	62,700	109	6
84	105	VIAG	GERMANY	14,230.3	16.9	54.5	357	(69.9)	12,428.1	113	2,447.7	196	74,122	88	15
85	76	TENNECO	U.S.	14,035.0	(5.8)	(732.0)	480	(230.5)	18,696.0	66	2,774.0	175	89,000	74	11
86	93	DIGITAL EQUIPMENT[9]	U.S.	14,024.2	7.2	(617.4)	478	(930.0)	11,874.7	120	7,623.8	48	121,000	49	6
87	130	NKK[3]	JAPAN	13,850.8	35.1	207.4	199	(24.1)	22,819.0	52	3,611.7	135	44,119	172	15
88	78	VOLVO†	SWEDEN	13,381.6	(8.9)	135.0	256	—	19,216.6	62	5,309.5	85	63,582	107	17
89	97	NESTE[6]†	FINLAND	13,365.3	3.9	90.7	307	(86.1)	10,881.2	140	3,932.9	122	13,426	414	18
90	94	MINNESOTA MINING & MFG.	U.S.	13,340.0	2.4	1,154.0	28	(11.8)	11,083.0	133	6,293.0	66	88,477	75	22
91	83	ELECTROLUX†	SWEDEN	13,331.2	(5.8)	66.8	343	(51.8)	11,498.1	128	2,411.5	198	134,229	38	7
92	99	SAINT-GOBAIN	FRANCE	13,311.4	4.9	444.9	101	(27.9)	18,251.4	68	5,821.2	75	104,653	61	4
93	103	BRIDGESTONE	JAPAN	13,225.6	6.7	53.7	358	82.5	14,464.6	97	3,514.0	137	83,081	80	21
94	86	PHILLIPS PETROLEUM	U.S.	13,216.0	(5.2)	258.0[10]	168	(66.9)	11,473.0	130	2,757.0	176	22,700	320	18
95	84	PECHINEY[6]	FRANCE	13,197.9	(6.5)	145.4	245	(83.9)	13,788.6	104	3,375.4	141	69,000	98	14
96	124	SUNKYONG	SOUTH KOREA	13,067.5	22.2	61.6	348	(26.5)	10,679.9	144	2,700.6	179	21,577	333	18
97	98	SUMITOMO METAL INDUSTRIES[3]	JAPAN	13,017.7	1.8	381.2	115	39.1	18,023.1	70	4,017.3	119	29,174	259	15
98	108	METALLGESELLSCHAFT[7]	GERMANY	13,014.0	8.7	28.2	390	(75.3)	7,951.5	191	1,309.9	332	38,173	195	11
99	52	PETROBRÁS[6]	BRAZIL	12,956.0	(16.6)	(619.2)	479	(147.6)	18,051.5	69	11,605.3	25	53,857	137	18
100	96	WESTINGHOUSE ELECTRIC	U.S.	12,794.0	(0.9)	(1,086.0)	486	(505.2)	20,159.0	60	3,746.0	129	113,664	52	7

Footnotes, definitions, and concepts underlying the figures in this directory are on page 191.

1991	1990			SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank	EMPLOYEES Number	EMPLOYEES Rank	Industry table number
101	165	SSANGYONG GROUP	SOUTH KOREA	12,719.8	57.6	110.1	281	28.2	10,933.8	136	3,330.8	143	23,850	307	18
102	95	INTERNATIONAL PAPER	U.S.	12,703.0	(2.0)	184.0‡	214	(67.7)	14,941.0	91	5,739.0	77	70,500	95	9
103	88	THOMSON[b]	FRANCE	12,643.7	(11.4)	(0.1)	418	—	20,129.0	61	1,322.4	329	105,000	59	7
104	120	BROKEN HILL PROPRIETARY[c]	AUSTRALIA	12,474.1*	15.2	1,118.4	31	32.3	17,242.1	74	6,735.0	62	51,000	148	18
105	110	SARA LEE[d]	U.S.	12,456.3	6.9	535.0	85	13.8	8,122.0	190	2,894.7	168	110,000	55	8
106	115	JOHNSON & JOHNSON	U.S.	12,447.0	10.8	1,461.0	21	27.8	10,513.0	147	5,626.0	81	82,700	81	19
107	123	SANYO ELECTRIC[e]	JAPAN	12,399.6	15.6	124.7	267	3.8	15,856.2	85	5,707.3	78	56,079	125	7
108	114	STATOIL[b]	NORWAY	12,255.8	7.8	422.9	105	(19.1)	12,668.5	110	2,306.4	204	13,943	409	18
109	106	BTR[b]	BRITAIN	12,037.0	(1.1)	979.7	40	2.4	14,978.4	90	2,674.0	182	104,950	60	4
110	101	ROCKWELL INTERNATIONAL[f]	U.S.	12,027.9	(3.3)	600.5	75	(3.8)	9,478.9	163	4,223.7	115	87,000	76	7
111	136	BSN	FRANCE	12,012.1	23.6	692.7	63	22.0	13,510.7	105	5,054.3	89	59,158	115	8
112	112	MICHELIN	FRANCE	11,996.3	4.1	(124.0)	446	—	15,399.4[j]	88	2,021.2[j]	230	140,000	36	21
113	119	MAN[b]	GERMANY	11,963.0	10.5	240.1	180	32.9	10,019.4	151	1,807.0	262	64,604	106	17
114	129	HANSON[b]	BRITAIN	11,884.5*	14.4	1,730.4	13	7.4	29,053.4	36	12,426.9	22	70,000	96	4
115	102	ALLIED-SIGNAL	U.S.	11,882.0	(4.1)	(273.0)	460	(159.1)	10,382.0	149	2,983.0	160	98,300	67	1
116	128	COCA-COLA	U.S.	11,571.6	11.2	1,618.0	17	17.1	10,222.4	150	4,425.8	108	28,900	264	3
117	100	GEORGIA-PACIFIC	U.S.	11,524.0	(9.0)	(142.0)‡	449	(138.9)	10,622.0	145	2,736.0	177	57,000	123	9
118	89	BARLOW RAND[b]	SOUTH AFRICA	11,498.2	7.1	138.8	251	(51.3)	6,791.5	219	1,464.5	311	150,900	30	8
119	90	GEC (GENERAL ELECTRIC CO.)[b]	BRITAIN	11,453.0	(15.7)	917.8	45	(16.9)	9,904.4	154	4,343.6	111	118,529	50	7
120	127	ISUZU MOTORS[b]	JAPAN	11,414.9	9.3	(459.5)	469	—	9,634.2	157	748.6	422	26,254	285	17
121	117	MOTOROLA	U.S.	11,341.0	4.2	454.0	98	(9.0)	9,375.0	167	4,630.0	102	102,000	63	7
122	126	BRISTOL-MYERS SQUIBB	U.S.	11,298.0	7.5	2,056.0	7	17.6	9,416.0	165	5,795.0	76	53,500	139	19
123	125	NIPPONDENSO	JAPAN	11,292.3	5.8	448.5	100	3.4	11,966.7	119	5,872.6	73	54,965	129	17
124	115	STORA	SWEDEN	11,257.1	1.7	84.7	316	(81.4)	14,921.7	92	3,197.5	155	66,813	100	9
125	140	VEBA OEL	GERMANY	11,113.7*	16.0	160.2	231	10.1	4,456.9	319	1,080.1	363	27,164	276	18
126	134	SHARP[b]	JAPAN	11,067.0	11.5	330.7	132	13.6	14,772.6	94	5,169.0	88	36,539	200	7
127	113	GOODYEAR TIRE & RUBBER	U.S.	11,046.1	(3.6)	96.6**	297	—	8,510.5	181	2,731.1	178	99,952	66	21
128	121	ANHEUSER-BUSCH	U.S.	10,996.3	2.3	939.8	44	11.6	9,986.5	152	4,438.1	107	44,836	169	3
129	143	KOBE STEEL[b]	JAPAN	10,470.4	10.9	186.2	211	14.9	16,451.3	79	2,918.6	167	26,705	281	15
130	•	SCHNEIDER	FRANCE	10,462.5	13.4	48.8	364	(71.3)	12,767.7	109	1,544.2	298	101,000	65	7
131	46	OCCIDENTAL PETROLEUM	U.S.	10,304.8	(53.0)	459.9**	96	—	16,114.6	81	4,339.4	112	24,700	302	16
132	155	COSMO OIL[b]	JAPAN	10,287.2*	20.4	107.9	284	60.8	9,152.6	174	716.7	428	4,235	488	18
133	109	SUN	U.S.	10,246.0*	(14.0)	(387.0)	466	(269.0)	7,143.0	209	2,696.0	180	17,000	386	18
134	111	CATERPILLAR	U.S.	10,182.0	(11.8)	(404.0)	467	(292.4)	12,042.0	117	4,044.0	118	53,636	138	11
135	144	INDIAN OIL[b]†	INDIA	10,141.7*	5.7	408.7	106	0.7	7,274.9	205	1,828.9	259	33,991	219	18
136	118	ALUMINUM CO. OF AMERICA	U.S.	9,981.2	(8.1)	62.7	347	(78.8)	11,178.4	131	4,937.4	97	65,600	103	15
137	139	SHOWA SHELL SEKIYU	JAPAN	9,967.8*	4.0	196.8	206	180.3	6,662.0	225	840.2	406	3,024	494	18
138	148	SANDOZ	SWITZERLAND	9,825.2	10.4	776.8	56	11.7	11,736.3	121	6,155.7	69	53,400	140	19
139	133	LOCKHEED	U.S.	9,809.0	(1.7)	308.0	144	(8.1)	6,617.0	226	2,503.0	192	72,300	90	1
140	122	UNOCAL	U.S.	9,780.0*	(8.9)	73.0	336	(81.8)	9,836.0	155	2,464.0	194	17,248	382	18
141	142	KOÇ HOLDING	TURKEY	9,708.2	2.7	226.9	190	(37.1)	2,684.4	439	509.8	455	38,552	193	17
142	135	NORSK HYDRO[b]†	NORWAY	9,613.7	(2.6)	(76.8)	439	(116.6)	13,327.5	106	3,200.7	153	34,957	211	5
143	138	COASTAL	U.S.	9,602.8	0.1	96.3	298	(57.3)	9,487.3	162	2,041.3	228	16,515	391	18
144	131	GENERAL DYNAMICS	U.S.	9,548.0	(6.2)	505.0	88	—	6,207.0	241	1,980.0	238	80,600	83	1
145	152	KAWASAKI STEEL[b]	JAPAN	9,547.9	10.4	306.7	146	(21.4)	14,737.0	95	4,231.2	114	24,813	301	15
146	157	BRITISH STEEL†[b]	BRITAIN	9,501.1	12.4	258.5	166	(71.7)	10,901.9	137	7,298.2	54	57,500	121	15
147	151	ASAHI GLASS	JAPAN	9,437.7	8.6	278.4	160	(13.5)	11,591.9	125	4,683.2	101	22,354	323	5
148	145	RAYTHEON	U.S.	9,355.5	0.9	591.8	76	6.2	6,087.1	246	3,323.4	144	71,600	92	7
149	158	ASAHI CHEMICAL INDUSTRY[b]	JAPAN	9,346.8	12.1	300.0	151	1.3	9,154.3	173	2,923.4	166	27,018	277	5
150	154	ASHLAND OIL[b]	U.S.	9,322.4	9.0	145.0	246	(20.4)	5,449.1	271	1,443.5	314	32,900	223	18

Footnotes, definitions, and concepts underlying the figures in this directory are on page 191.

CONTINUED

THE GLOBAL

500

THE WORLD'S LARGEST INDUSTRIAL CORPORATIONS

151–200

1991	1990			SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank	EMPLOYEES Number	EMPLOYEES Rank	Industry table number
151	137	FRIED. KRUPP	GERMANY	9,130.0	(5.9)	147.8	241	47.8	6,775.0	220	813.8	412	53,115	141	11
152	180	BERTELSMANN	GERMANY	9,104.0	20.8	339.4	129	74.0	4,372.6	325	1,035.4	373	45,110	164	20
153	161	MITSUBISHI KASEI	JAPAN	9,091.6	10.6	98.8	293	(40.5)	11,138.9	132	2,143.4	221	21,524	334	5
154	141	AKZO	NETHERLANDS	9,059.8	(4.7)	310.1	142	(14.8)	7,931.9	193	2,780.7	174	65,200	104	5
155	146	MONSANTO	U.S.	8,929.0	(1.3)	296.0	155	(45.8)	9,227.0	172	3,654.0	134	39,281	190	5
156	163	BAXTER INTERNATIONAL	U.S.	8,921.0	9.5	591.0	77	1,377.5	9,340.0	168	4,373.0	110	65,900	101	22
157	172	MERCK	U.S.	8,765.2	12.0	2,121.7	6	19.1	9,498.5	161	4,916.2	98	37,700	197	19
158	147	WEYERHAEUSER	U.S.	8,724.8	(3.5)	(161.9)	452	(141.1)	16,927.5	76	3,489.4	139	38,669	191	9
159	132	UNISYS	U.S.	8,696.1	(14.0)	(1,393.3)	487	—	8,432.0	182	2,014.4	232	60,300	114	6
160	195	SUZUKI MOTOR	JAPAN	8,681.9	24.5	111.7	279	189.5	5,237.5	276	1,476.7	309	23,277	312	17
161	203	NEWS CORP.	AUSTRALIA	8,661.7	28.6	(306.1)	463	(216.7)	19,058.6	63	6,888.1	59	31,186	244	20
162	213	AEROSPATIALE	FRANCE	8,615.8	33.1	17.0	404	—	14,417.1	99	943.6	389	43,287	175	1
163	183	FUJI PHOTO FILM	JAPAN	8,599.6	14.7	702.3	62	14.5	12,499.7	112	7,622.6	49	23,690	309	5
164	196	ROCHE	SWITZERLAND	8,570.1	23.2	1,033.4	37	51.5	18,395.2	67	10,597.9	28	55,134	127	19
165	168	ARCHER-DANIELS-MIDLAND	U.S.	8,567.7	8.5	466.7	93	(3.5)	6,260.6	237	3,922.3	123	13,049	417	8
166	149	CHINESE PETROLEUM	TAIWAN	8,557.8	(3.5)	825.8	51	135.5	12,212.7	114	7,102.5	57	22,096	328	18
167	176	DAI NIPPON PRINTING	JAPAN	8,381.7	10.2	306.5	147	6.8	8,364.0	185	4,312.5	113	25,624	288	20
168	159	AMERICAN BRANDS	U.S.	8,379.0*	1.3	806.1	54	35.3	15,115.5	89	4,185.9	116	48,000	155	25
169	181	HILLSDOWN HOLDINGS	BRITAIN	8,298.8	10.1	183.4	215	69.8	4,216.0	334	1,506.4	306	48,652	153	8
170	192	HYUNDAI MOTOR	SOUTH KOREA	8,289.2	17.6	75.7	333	(25.0)	7,416.3	203	1,188.4	345	44,081	174	17
171	153	SMITHKLINE BEECHAM	BRITAIN	8,284.6	(4.1)	638.2	50	(45.9)	7,663.7	197	2,185.1	217	54,000	133	19
172	182	SUMITOMO CHEMICAL	JAPAN	8,203.9	9.2	148.7	240	(5.4)	10,392.5	148	1,888.4	251	15,027	398	5
173	160	DEGUSSA	GERMANY	8,202.5	(0.7)	60.5	350	(30.3)	4,296.1	327	840.7	405	34,482	214	15
174	200	NORTHERN TELECOM	CANADA	8,182.5	20.1	514.9	86	11.9	9,534.2	159	3,749.0	128	57,059	122	7
175	185	MATSUSHITA ELECTRIC WORKS	JAPAN	8,147.7	12.5	256.2	171	13.0	8,638.6	179	3,356.6	142	25,200	290	7
176	204	ALLIED-LYONS	BRITAIN	8,105.1*	20.3	1,332.2	24	113.0	11,607.1	124	5,011.8	92	83,243	79	3
177	156	PIRELLI	ITALY	8,086.4	(4.5)	(588.1)	476	(605.3)	9,248.1	170	1,611.1	291	64,854	105	21
178	205	NIPPON MINING	JAPAN	8,030.6	20.2	36.3	379	119.1	7,940.5	192	1,213.3	343	12,559	421	18
179	193	POHANG IRON & STEEL	SOUTH KOREA	7,991.1	17.1	197.8	205	77.8	13,911.2	103	6,108.5	70	25,044	294	15
180	190	SUMITOMO ELECTRIC INDUSTRIES	JAPAN	7,990.9	12.7	221.9	193	20.0	7,435.9	202	2,397.0	200	32,922	222	14
181	162	TRW	U.S.	7,913.0	(3.1)	(140.0)	448	(167.3)	5,635.0	261	1,685.0	283	71,300	93	17
182	●	TETRA PAK ALFA-LAVAL GROUP	SWEDEN	7,900.0	—	N.A.		—	N.A.		N.A.		34,530	213	9
183	166	L.M. ERICSSON	SWEDEN	7,851.8	(1.6)	256.6	170	(55.0)	8,933.4	175	2,814.4	173	71,247	94	7
184	167	TEXTRON	U.S.	7,840.1	(1.0)	299.5	152	5.8	15,737.3	87	2,927.7	165	52,000	144	1
185	184	HENKEL	GERMANY	7,785.8	4.7	240.1	179	(0.2)	6,522.4	228	2,246.7	212	41,475	180	23
186	150	ALCAN ALUMINIUM	CANADA	7,748.0	(12.4)	(31.0)	430	(105.8)	10,816.0	142	4,942.0	96	54,000	134	14
187	169	TAIYO FISHERY	JAPAN	7,660.1	(2.8)	(41.4)	432	(371.5)	3,286.3	399	246.5	481	7,795	460	8
188	173	SOLVAY	BELGIUM	7,625.7	(3.6)	342.2	127	(23.6)	8,858.7	176	3,276.0	146	45,585	163	5
189	197	TOPPAN PRINTING	JAPAN	7,607.9	9.8	241.9	177	5.1	7,240.7	206	3,235.7	149	16,162	393	20
190	178	EMERSON ELECTRIC	U.S.	7,427.0	(1.9)	631.9	72	3.0	6,364.4	234	3,256.9	148	69,500	97	7
191	189	RALSTON PURINA	U.S.	7,394.2	3.7	391.9	110	(1.1)	4,632.1	308	783.8	418	57,996	120	8
192	175	UNION CARBIDE	U.S.	7,346.0	(3.6)	(28.0)	429	(109.1)	6,826.0	217	2,239.0	214	16,705	389	5
193	187	JAPAN TOBACCO	JAPAN	7,337.8*	2.8	362.4	118	67.4	12,083.6	116	7,600.0	50	23,000	317	25
194	201	SNOW BRAND MILK PRODUCTS	JAPAN	7,336.6	7.7	56.0	355	55.0	3,290.0	397	733.4	424	14,393	406	8
195	210	KAWASAKI HEAVY INDUSTRIES	JAPAN	7,318.2	12.2	108.2	283	23.7	7,920.0	194	799.2	414	20,590	342	11
196	199	BRITISH COAL	BRITAIN	7,294.3	6.1	144.0	248	—	10,515.5	146	136.4	485	79,100	84	16
197	215	KOMATSU	JAPAN	7,279.6	13.1	221.2	194	15.8	9,382.6	166	3,732.5	130	24,821	300	11
198	236	RICOH	JAPAN	7,258.3	21.8	96.0	299	(13.6)	8,525.7	180	2,581.7	187	45,000	166	6
199	174	BORDEN	U.S.	7,235.1	(5.2)	294.9	157	(18.9)	5,481.3	269	1,974.5	240	44,400	170	8
200	164	NORANDA	CANADA	7,218.3	(11.1)	(116.0)	445	(212.7)	12,617.2	111	3,723.8	131	51,000	147	9

Footnotes, definitions, and concepts underlying the figures in this directory are on page 191.

1991	1990			SALES		PROFITS			ASSETS		STOCK-HOLDERS' EQUITY		EMPLOYEES		Industry table number
				$ millions	% change from 1990	$ millions	Rank	% change from 1990	$ millions	Rank	$ millions	Rank	Number	Rank	
201	188	FLETCHER CHALLENGE[6]	NEW ZEALAND	7,186.9	0.7	332.1	130	(13.8)	10,896.3	139	3,212.5	151	35,000	210	9
202	212	GENERAL MILLS[5]	U.S.	7,153.2	10.3	472.7	92	23.9	3,901.8	359	1,113.5	361	108,077	58	8
203	209	PFIZER	U.S.	7,143.8	8.2	722.1	60	(9.9)	9,634.6	156	5,026.3	91	44,100	173	19
204	198	AMERICAN HOME PRODUCTS	U.S.	7,102.8	2.7	1,375.3	23	11.8	5,938.8	253	3,300.5	145	47,938	157	19
205	170	DEERE[10]	U.S.	7,055.2	(10.5)	(20.2)	423	(104.9)	11,649.4	122	2,835.8	172	36,469	201	11
206	177	DALGETY[6]	BRITAIN	6,998.7	(7.7)	80.3	325	(25.1)	1,567.8	476	624.5	440	16,753	388	8
207	241	ISHIKAWAJIMA-HARIMA HEAVY IND.[7]	JAPAN	6,985.6	20.9	138.4	252	41.2	9,500.2	160	1,127.6	360	27,752	270	11
208	202	W.R. GRACE	U.S.	6,949.1	2.6	218.6	197	7.8	6,007.1	250	2,025.2	229	49,305	151	5
209	179	OLIVETTI	ITALY	6,943.3	(7.9)	(370.9)	465	(835.7)	11,583.2	126	2,678.4	181	46,484	160	6
210	225	ABBOTT LABORATORIES	U.S.	6,921.7	11.5	1,088.7	34	12.7	6,255.3	238	3,203.0	152	45,694	162	19
211	258	CEA-INDUSTRIE[9]	FRANCE	6,898.2	26.4	230.5	185	(25.0)	26,949.0	39	3,605.4	136	37,300	198	5
212	214	KIMBERLY-CLARK	U.S.	6,830.0	5.9	508.3	87	17.6	5,650.4	259	2,519.7	190	41,286	181	9
213	243	HYUNDAI HEAVY INDUSTRIES	S. KOREA	6,822.7	18.4	310.8	141	270.7	7,761.0	196	1,773.7	271	51,863	146	27
214	208	TEXAS INSTRUMENTS	U.S.	6,812.0	3.1	(409.0)	468	—	5,009.0	288	1,955.0	243	62,939	108	7
215	250	MITSUBISHI MATERIALS[1,11]	JAPAN	6,789.0	21.6	320.3	134	205.4	9,586.1	158	2,063.1	226	19,310	353	15
216	206	WHIRLPOOL	U.S.	6,770.0	1.9	170.0	221	136.1	6,445.0	231	1,515.0	305	37,886	196	7
217	280	GLAXO HOLDINGS[6]	BRITAIN	6,747.3	36.2	1,559.4	19	20.7	9,293.8	169	5,383.1	83	35,640	205	19
218	309	ASSOCIATED BRITISH FOODS[6]	BRITAIN	6,731.3[1]	49.3	198.1[1]	204	(54.1)	4,838.1	298	2,861.6	171	53,975	135	8
219	228	H.J. HEINZ[5]	U.S.	6,682.1	9.3	568.0	80	12.6	4,935.4	293	2,274.9	206	34,100	216	8
220	231	TORAY INDUSTRIES[3]	JAPAN	6,665.5	10.2	265.1	163	(5.9)	8,177.8	188	2,976.3	161	25,708	287	24
221	248	DAINIPPON INK & CHEMICALS[3]	JAPAN	6,572.8	16.4	35.5	381	(37.2)	6,824.3	218	1,381.3	320	22,341	324	5
222	249	KIRIN BREWERY[3]	JAPAN	6,491.0[4]	15.7	319.0	136	9.8	10,896.6	138	4,527.3	106	11,000	433	3
223	186	RTZ[1]	BRITAIN	6,472.1	(10.1)	302.4	148	(65.0)	10,695.9	143	7,277.4	55	73,495	89	16
224	220	PROCORDIA	SWEDEN	6,470.1	2.1	497.4	89	829.4	6,101.7	245	3,275.4	147	40,673	182	19
225	237	KUBOTA[3]	JAPAN	6,468.0	10.7	51.2	362	(3.8)	7,639.8	198	2,262.3	209	20,575	343	11
226	191	AMERADA HESS	U.S.	6,416.3	(9.4)	84.3	318	(82.5)	8,841.4	177	3,132.0	156	10,317	439	18
227	253	APPLE COMPUTER[5]	U.S.	6,308.8	13.5	309.8	143	(34.8)	3,493.6	381	1,766.7	272	14,432	405	6
228	207	ROLLS-ROYCE	BRITAIN	6,277.6	(5.2)	42.4	372	(82.3)	5,663.3	258	2,093.7	224	61,400	111	1
229	262	DAIHATSU MOTOR[3]	JAPAN	6,244.2	15.2	49.9	363	440.0	4,181.7	336	819.6	411	19,796	350	17
230	325	MITSUBISHI OIL[3]	JAPAN	6,239.8[4]	46.8	87.2	310	155.2	5,857.6	255	645.0	439	3,318	493	18
231	219	HÜLS	GERMANY	6,233.0	(1.7)	(22.4)	424	—	5,602.8	264	1,430.6	318	41,957	178	5
232	223	CAMPBELL SOUP[5]	U.S.	6,230.1	0.1	401.5	107	9,025.0	4,149.0	340	1,793.4	267	44,934	168	8
233	194	HONEYWELL	U.S.	6,220.9	(10.9)	331.1	131	(13.3)	4,806.7	300	1,850.8	256	58,182	118	22
234	238	CPC INTERNATIONAL	U.S.	6,200.0	6.9	372.7	116	(0.3)	4,510.0	315	1,630.0	289	35,000	208	8
235	224	COOPER INDUSTRIES	U.S.	6,162.6	(1.0)	393.2	109	8.8	7,148.6	208	3,394.9	140	53,900	136	7
236	218	BICC	BRITAIN	6,159.1	(3.5)	5.3	412	(96.8)	4,131.3	344	697.9	432	41,874	179	11
237	322	PETRONAS[2,3]	MALAYSIA	6,155.5	43.8	1,654.9	15	47.8	10,974.7	134	5,289.8	86	8,164	455	18
238	222	LTV	U.S.	6,117.3	(1.8)	74.1	334	4.5	6,685.2	223	(4,731.6)	493	34,600	212	15
239	226	MARTIN MARIETTA	U.S.	6,102.1	(0.7)	313.1	139	(4.4)	3,896.9	360	1,803.9	263	60,500	113	1
240	244	QUAKER OATS[5]	U.S.	6,101.2	6.2	205.8	200	21.8	3,016.1	420	905.8	397	20,900	337	8
241	171	HOESCH	GERMANY	6,098.5	(22.1)	77.7	330	28.3	5,304.9	274	1,055.7	368	44,200	171	11
242	245	COLGATE-PALMOLIVE	U.S.	6,093.7	6.2	124.9	265	(61.1)	4,510.7	314	1,866.3	254	24,900	299	23
243	259	FUJI ELECTRIC[3]	JAPAN	6,030.6	10.7	154.9	233	61.7	6,250.3	239	1,178.2	348	20,881	336	7
244	246	TONEN	JAPAN	6,021.5	5.5	130.9	257	(5.4)	6,535.9	227	2,875.6	169	4,304	487	18
245	216	BULL[9]	FRANCE	5,972.4	(6.8)	(585.4)	475	—	4,874.0	295	(151.2)	489	39,878	188	6
246	270	HYOSUNG GROUP	SOUTH KOREA	5,931.5	12.7	86.9	312	53.3	4,474.0	318	1,036.4	372	25,500	269	14
247	252	L'ORÉAL	FRANCE	5,931.0	6.4	382.2	114	14.6	5,615.9	263	2,462.1	195	29,877	253	23
248	292	FUJI HEAVY INDUSTRIES[3]	JAPAN	5,912.5	24.5	(615.1)	477	—	5,757.3	257	1,359.2	323	19,166	354	17
249	239	TATE & LYLE[5]	BRITAIN	5,883.8	1.7	263.9	164	(12.0)	3,702.3	366	1,138.4	358	17,500	376	8
250	276	SEKISUI CHEMICAL[3]	JAPAN	5,882.3	14.7	230.4	186	9.7	7,176.3	207	2,316.6	203	10,893	435	5

Footnotes, definitions, and concepts underlying the figures in this directory are on page 191.

CONTINUED

THE GLOBAL

500

THE WORLD'S LARGEST INDUSTRIAL CORPORATIONS

251–300

1991	1990			SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank	EMPLOYEES Number	EMPLOYEES Rank	Industry table number
251	221	ARBED	LUXEMBOURG	5,804.0	(9.2)	126.9	263	(29.6)	8,396.9	184	2,120.1	223	52,920	142	15
252	272	KELLOGG	U.S.	5,786.6	11.3	606.0	74	20.5	3,925.8	358	2,159.8	219	17,017	385	8
253	230	REYNOLDS METALS	U.S.	5,784.5	(4.8)	154.1	234	(48.0)	6,685.3	222	2,960.1	162	30,900	246	15
254	247	CADBURY SCHWEPPES	BRITAIN	5,780.7	1.8	359.3	119	12.2	4,953.3	292	1,619.1	290	35,372	207	3
255	211	LYONDELL PETROCHEMICAL	U.S.	5,743.0	(11.8)	222.0	192	(37.6)	1,479.0	479	122.0	487	2,270	496	5
256	256	FURUKAWA ELECTRIC†	JAPAN	5,726.2*	4.8	48.1	366	(7.2)	5,463.9	270	1,310.9	331	17,394	378	14
257	273	ELI LILLY	U.S.	5,725.7	10.3	1,314.7	25	16.6	8,298.6	186	4,966.1	94	30,800	248	19
258	227	PPG INDUSTRIES	U.S.	5,725.2	(6.4)	276.2	161	(41.8)	6,056.2	247	2,654.5	184	33,700	220	4
259	267	L'AIR LIQUIDE	FRANCE	5,717.7	6.3	391.8	111	(4.1)	7,467.2	201	3,200.6	154	28,000	269	5
260	255	NORTHROP	U.S.	5,705.5	3.9	200.8	203	(4.6)	3,127.8	412	1,182.4	347	36,200	202	1
261	268	CONTINENTAL	GERMANY	5,657.3	6.7	(77.7)	441	(234.6)	4,374.5	324	905.8	396	49,877	150	21
262	257	THOMSON CORP.	CANADA	5,654.0	3.5	320.0	135	(23.8)	8,166.0	189	3,222.0	150	45,800	161	20
263	233	REPOLA†	FINLAND	5,622.1	(6.9)	(553.7)	472	(602.4)	8,411.9	183	1,994.4	236	31,684	238	9
264	235	LAFARGE COPPÉE	FRANCE	5,612.4	(7.7)	218.8	196	(45.6)	9,229.8	171	2,500.1	193	30,830	247	4
265	265	SCA (SVENSKA CELLULOSA)	SWEDEN	5,536.3	3.8	149.0	239	(41.4)	7,842.8	195	2,068.2	225	32,199	229	23
266	●	FOSTER'S BREWING†	AUSTRALIA	5,490.2*	—	(33.8)	431	—	6,980.9	211	1,920.8	248	17,500	377	3
267	285	AISIN SEIKI†	JAPAN	5,480.6	13.2	87.1	311	(10.2)	3,540.3	376	1,472.5	310	15,982	394	17
268	254	HACHETTE	FRANCE	5,392.8	(2.3)	(342.5)	464	(479.2)	5,019.9	287	366.7	470	28,460	267	20
269	242	STONE CONTAINER	U.S.	5,392.7	(6.5)	(49.1)	435	(151.5)	6,902.9	214	1,537.5	301	31,800	235	9
270	281	TOYO SEIKAN†	JAPAN	5,360.6	8.7	258.5	167	20.5	4,146.8	343	2,005.6	233	6,254	475	14
271	299	GUINNESS	BRITAIN	5,354.5*	17.1	1,052.2	36	5.8	14,090.2	101	6,588.8	64	23,027	314	3
272	269	LITTON INDUSTRIES†	U.S.	5,313.3	0.8	63.5	345	(64.5)	4,998.1	290	1,157.1	353	52,300	143	7
273	291	SEAGRAM	CANADA	5,293.0*	11.3	756.0	58	6.4	11,477.0	129	5,952.0	72	17,700	372	3
274	284	UNITED BISCUITS	BRITAIN	5,278.8	8.4	230.1	187	7.8	3,067.9	416	1,288.3	334	40,226	185	8
275	294	NIPPON MEAT PACKERS†	JAPAN	5,251.4	12.3	82.0	322	32.8	3,289.0	398	1,146.5	356	17,716	370	8
276	264	SAAB-SCANIA	SWEDEN	5,237.1	(1.9)	230.9	184	287.2	7,586.9	199	3,107.5	157	31,656	240	17
277	289	WARNER-LAMBERT	U.S.	5,166.6	8.3	34.8	383	(92.8)	3,602.0	374	1,170.7	349	34,000	217	19
278	229	COCKERILL SAMBRE†	BELGIUM	5,082.4	(16.4)	105.7	286	(71.7)	6,027.6	248	2,253.1	210	29,000	263	15
279	251	DSM	NETHERLANDS	5,044.9	(9.6)	275.9	162	(41.5)	5,971.0	252	2,401.6	199	25,170	292	5
280	279	TAKEDA CHEMICAL INDUSTRIES†	JAPAN	5,041.1	1.4	313.6	138	22.1	6,849.2	215	3,665.2	133	15,210	397	19
281	286	AMERICAN CYANAMID	U.S.	5,039.9	4.5	358.8	120	1.7	5,054.2	286	2,603.6	186	31,587	241	5
282	293	PILKINGTON†	BRITAIN	5,016.1	5.7	29.2	389	(89.9)	5,179.2	280	1,592.7	294	59,100	116	4
283	263	SCOTT PAPER	U.S.	5,000.0	(7.3)	(69.9)	438	(147.2)	6,492.6	230	1,988.9	237	29,088	262	9
284	●	YPF (YACIMIENTOS PETROLIFEROS)†	ARG.	5,000.0†	—	300.0†	150	—	N.A.		N.A.		N.A.		18
285	308	ASAHI BREWERIES	JAPAN	4,997.4	10.9	35.3	382	74.6	16,341.5	80	2,317.9	202	4,492	486	3
286	329	GOLDSTAR	SOUTH KOREA	4,995.1	18.2	25.2	394	(46.9)	4,324.1	326	919.9	395	32,436	226	7
287	275	HACI ÖMER SABANCI HOLDING	TURKEY	4,978.4	(2.9)	350.6	124	1.4	5,859.9	254	824.7	408	28,310	268	24
288	330	YAMAHA MOTOR†	JAPAN	4,974.1	18.1	90.8	306	98.7	3,963.6	355	656.8	437	19,030	356	17
289	302	BOC GROUP†	BRITAIN	4,972.4	9.3	350.2	125	(14.6)	5,498.0	268	2,240.8	213	39,661	189	5
290	295	RMC GROUP	BRITAIN	4,961.2	7.1	123.8	268	(38.6)	3,778.8	365	1,296.9	333	26,301	284	4
291	326	LEVI STRAUSS ASSOCIATES†	U.S.	4,902.9	15.4	356.7	121	42.0	2,633.4	442	558.3	451	32,100	231	2
292	317	UBE INDUSTRIES†	JAPAN	4,882.8	11.6	59.0	352	(59.6)	6,498.3	229	607.5	444	13,263	416	4
293	314	SHOWA DENKO	JAPAN	4,853.9	9.8	12.9	408	(78.0)	6,970.0	212	1,342.8	326	6,585	473	5
294	296	KANEBO†	JAPAN	4,833.1	4.5	6.6	411	(17.4)	4,797.4	301	132.0	486	23,842	308	24
295	306	OJI PAPER†	JAPAN	4,787.8	6.1	119.1	274	(33.1)	6,124.1	244	1,795.5	266	9,236	449	9
296	274	CHAMPION INTERNATIONAL	U.S.	4,786.4	(7.2)	40.3	373	(81.9)	8,655.9	178	3,671.1	132	27,500	275	9
297	334	INTEL	U.S.	4,778.6	15.9	818.6	53	25.9	6,292.1	235	4,417.9	109	25,092	293	7
298	324	HINO MOTORS†	JAPAN	4,733.2	11.1	87.7	309	29.4	2,599.9	443	803.3	413	8,237	453	17
299	313	OKI ELECTRIC INDUSTRY†	JAPAN	4,732.3	6.1	68.5	340	(39.7)	5,523.7	267	1,371.8	321	20,278	344	7
300	318	KAO†	JAPAN	4,708.6	7.9	140.7	249	13.7	4,519.2	313	1,966.5	241	13,800	410	23

Footnotes, definitions, and concepts underlying the figures in this directory are on page 191.

1991	1990			SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCK-HOLDERS' EQUITY $ millions	STOCK-HOLDERS' EQUITY Rank	EMPLOYEES Number	EMPLOYEES Rank	Industry table number
301	316	GILLETTE	U.S.	4,705.6	7.1	427.4	103	16.2	3,886.7	362	1,157.1	352	31,200	243	14
302	303	DRESSER INDUSTRIES[12]	U.S.	4,702.3	3.8	146.8	243	(20.4)	3,250.8	402	1,761.2	274	31,800	234	11
303	311	SULZER BROTHERS	SWITZERLAND	4,667.5	1.3	83.0	319	(25.6)	5,806.8	256	1,581.3	295	32,767	224	11
304	283	BLACK & DECKER	U.S.	4,637.0	(4.9)	53.0	361	3.8	5,532.8	266	1,027.2	375	38,600	192	11
305	321	CHIQUITA BRANDS INTERNATIONAL[20]	U.S.	4,627.4	7.5	128.5	260	36.8	3,142.5	410	967.9	386	50,000	149	8
306	287	MEAD	U.S.	4,599.7	(4.1)	6.9	410	(82.1)	3,986.2	354	1,478.4	308	21,600	332	9
307	271	DANA	U.S.	4,591.1	(12.1)	13.5	407	(82.2)	4,179.3	338	988.6	381	35,000	209	17
308	301	ALUSUISSE-LONZA	SWITZERLAND	4,575.5	0.4	70.4	339	(63.5)	4,445.1	320	1,184.0	346	24,907	298	14
309	305	JOHNSON CONTROLS	U.S.	4,566.2	1.1	95.1	300	2.9	2,841.0	427	1,064.0	365	42,700	177	10
310	261	JAMES RIVER CORP. OF VIRGINIA	U.S.	4,561.7	(15.9)	78.3	328	0.1	5,626.6	262	2,573.6	188	29,100	261	9
311	278	OIL & NATURAL GAS COMMISSION	INDIA	4,549.0*	(11.2)	58.4	353	(94.0)	11,636.4	123	5,636.0	79	48,198	154	16
312	340	NIPPON LIGHT METAL	JAPAN	4,543.3	12.0	354.6	123	317.1	4,856.2	297	1,018.6	377	12,175	424	14
313	310	CMB PACKAGING	FRANCE	4,522.3	0.9	181.1	217	(5.0)	5,148.8	281	2,396.5	201	31,661	239	14
314	288	SKF†	SWEDEN	4,505.4	(6.0)	(184.8)	456	(222.4)	5,303.0	275	1,713.2	280	47,939	156	14
315	336	TEIJIN	JAPAN	4,503.8	9.6	184.5	213	4.3	6,717.4	221	2,126.0	222	12,425	423	24
316	394	DEUTSCHE BABCOCK	GERMANY	4,500.8	30.2	16.1	406	—	2,155.7	462	338.1	472	35,549	206	11
317	●	ARJO WIGGINS APPLETON	BRITAIN	4,462.0	65.2	257.1	169	40.4	4,148.3	341	2,005.2	234	18,911	358	9
318	500	ROTHMANS INTERNATIONAL	BRITAIN	4,421.8*	71.0	461.1	94	40.4	5,054.4	285	1,682.6	284	22,190	325	25
319	344	UNIGATE	BRITAIN	4,356.3	10.0	(80.0)	443	(179.5)	1,767.7	472	609.0	443	29,618	254	8
320	366	LUCAS INDUSTRIES	BRITAIN	4,353.6	17.4	92.4	305	(59.8)	3,487.9	382	1,357.5	324	54,900	130	17
321	304	HOOGOVENS GROUP	NETHERLANDS	4,342.7	(3.9)	(27.5)	428	(116.8)	5,405.7	272	1,482.7	307	26,875	279	15
322	300	PETRO-CANADA	CANADA	4,326.5*	(5.1)	(521.5)	470	(435.9)	5,220.6	278	2,156.9	220	9,524	447	18
323	282	BETHLEHEM STEEL	U.S.	4,317.9	(12.4)	(767.0)	482	—	4,128.3	345	674.8	434	27,500	274	15
324	347	AJINOMOTO	JAPAN	4,312.4	10.4	84.8	315	(12.2)	5,203.2	279	2,514.9	191	10,927	434	8
325	392	KLÖCKNER-WERKE	GERMANY	4,308.9	24.5	0.9	417	(97.8)	4,116.7	346	725.2	427	31,772	236	15
326	379	PIONEER ELECTRONIC	JAPAN	4,306.6	19.0	242.9	176	17.8	3,471.9	383	2,208.4	215	15,331	396	7
327	333	CEPSA (ESPAÑOLA DE PETROLEOS)	SPAIN	4,300.3	4.0	126.6	264	79.4	4,218.3	333	1,745.9	276	8,470	451	18
328	319	SNECMA	FRANCE	4,243.4	(2.1)	(12.0)	421	(131.4)	6,138.5	243	925.1	394	26,684	282	1
329	361	SUMITOMO RUBBER INDUSTRIES	JAPAN	4,219.8	11.4	29.6	388	263.8	4,266.9	328	440.9	463	22,000	330	21
330	359	EFIM	ITALY	4,219.3	—	N.A.		—	N.A.		N.A.		N.A.		15
331	298	NOBEL INDUSTRIES	SWEDEN	4,179.2*	(9.3)	(834.9)	484	(519.8)	6,018.2	249	1,162.6	351	22,922	318	5
332	391	TOYODA AUTOMATIC LOOM WORKS	JAPAN	4,175.8	19.6	129.0	259	18.8	2,726.7	433	1,552.0	296	7,866	459	17
333	431	BURMAH CASTROL	BRITAIN	4,174.7	34.9	79.6	326	(74.6)	3,195.5	408	925.9	393	20,000	349	5
334	353	LINDE	GERMANY	4,169.8	8.5	146.9	242	16.4	3,893.2	361	1,764.9	273	28,535	265	17
335	354	HOLDERBANK	SWITZERLAND	4,161.4	8.6	121.1	269	(10.0)	7,344.3	204	2,052.7	227	32,161	230	4
336	327	SUMITOMO METAL MINING	JAPAN	4,160.8	(1.7)	98.0	294	(26.8)	4,410.5	322	1,232.4	339	5,969	478	15
337	343	JOHN LABATT	CANADA	4,138.7*	4.3	94.1	303	(34.3)	2,724.0	435	1,218.8	342	16,700	390	8
338	412	MITSUBISHI PETROCHEMICAL	JAPAN	4,113.9	26.1	184.8	212	(18.9)	5,135.4	282	1,441.7	316	6,545	474	5
339	349	HEINEKEN	NETHERLANDS	4,088.8	4.8	236.9	183	18.0	4,627.6	309	1,965.8	242	27,502	272	3
340	348	JUJO PAPER	JAPAN	4,074.6	4.4	59.2	351	(44.4)	4,987.4	291	1,140.2	357	7,290	464	9
341	416	YAMAZAKI BAKING	JAPAN	4,064.5	26.3	102.3	288	46.1	2,707.3	436	1,276.7	336	17,538	374	8
342	342	COCA-COLA ENTERPRISES	U.S.	4,050.8	0.3	(82.4)	444	(188.2)	6,676.6	224	1,442.6	315	25,000	296	3
343	331	BOISE CASCADE	U.S.	4,043.7	(3.5)	(79.4)	442	(205.6)	4,729.2	303	1,447.6	313	19,619	352	9
344	341	GRUMMAN	U.S.	4,037.9	(0.1)	99.3	292	16.1	2,363.2	458	951.8	388	23,600	310	1
345	312	MATRA	FRANCE	4,025.6	(12.5)	44.7	369	(59.8)	6,268.1	236	871.8	401	21,334	335	1
346	358	NORDICO[22]	SWEDEN	3,997.5	5.0	(7.1)	420	(125.4)	3,147.6	409	711.1	429	10,154	440	18
347	240	NOKIA†	FINLAND	3,977.9	(31.2)	(52.1)	436	(172.6)	4,865.5	296	1,784.9	268	29,167	260	7
348	363	FMC	U.S.	3,931.5	4.7	163.9	228	5.5	2,815.6	429	309.8	474	23,150	313	5
349	335	DE BEERS CONSOL. MINES[23]	S. AFRICA	3,927.0	(4.8)	966.9	41	(31.8)	10,829.6	141	8,112.9	42	25,000	297	16
350	●	KIA MOTORS	SOUTH KOREA	3,923.5	6.9	21.4	396	(64.0)	4,563.7	311	1,056.3	367	22,103	327	17

Footnotes, definitions, and concepts underlying the figures in this directory are on page 191.

CONTINUED

THE GLOBAL

500

THE WORLD'S LARGEST INDUSTRIAL CORPORATIONS

351–400

1991	1990			SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank	EMPLOYEES Number	EMPLOYEES Rank	Industry table number
351	355	TYSON FOODS[a]	U.S.	3,922.1	2.5	145.5	244	21.2	2,645.8	441	822.5	410	47,000	158	8
352	350	PACIFIC DUNLOP[b]	AUSTRALIA	3,919.4	0.9	153.5	235	(28.7)	3,562.4	375	1,046.5	369	40,504	183	21
353	389	R.R. DONNELLEY & SONS	U.S.	3,914.8	11.9	204.9	201	(9.3)	3,403.8	391	1,730.4	278	29,300	258	20
354	368	TOYOBO[j]	JAPAN	3,914.3	6.0	48.8	365	(11.9)	4,053.6	349	732.1	425	15,524	395	5
355	375	LVMH	FRANCE	3,907.7	8.0	662.7	66	6.9	9,968.4	153	3,794.0	126	14,650	401	3
356	397	TDK[j]	JAPAN	3,895.1	14.1	201.5	202	24.1	4,603.6	310	2,605.0	185	25,198	291	7
357	382	KONICA[c,k]	JAPAN	3,892.7	9.0	7.1	409	12.0	4,101.1	347	1,227.4	341	17,696	373	22
358	378	CRA	AUSTRALIA	3,892.6	7.4	(26.7)	427	(108.6)	6,160.8	242	3,041.0	159	18,462	364	16
359	414	RACAL ELECTRONICS[l]	BRITAIN	3,882.2	20.1	223.8	191	24.8	3,668.8	369	1,457.8	312	38,461	194	7
360	338	OWENS-ILLINOIS	U.S.	3,852.4	(5.4)	(273.6)‡	461	—	4,399.1	323	414.9	466	34,300	215	4
361	365	SCHERING	GERMANY	3,836.8	2.7	165.4	225	3.5	4,477.7	316	1,693.3	282	26,339	283	15
362	384	NIPPON SUISAN[j]	JAPAN	3,820.5	7.4	(45.0)	434	(783.1)	2,233.7	461	528.4	453	5,669	479	8
363	433	CROWN CORK & SEAL	U.S.	3,807.4	23.6	128.1	262	19.6	2,982.5	423	1,084.4	362	17,763	369	14
364	386	MITSUI TOATSU CHEMICALS[j]	JAPAN	3,789.9	7.4	109.5	282	(2.0)	5,635.8	260	1,134.2	359	10,000	443	5
365	307	TRELLEBORG	SWEDEN	3,774.7	(16.3)	(24.8)	425	(109.5)	5,099.9	283	1,265.5	337	19,674	351	16
366	●	SUNTORY	JAPAN	3,773.6*	—	36.1	380	—	7,481.2	200	1,596.2	293	4,954	484	3
367	357	AMAX	U.S.	3,771.6	(1.0)	30.2	387	(86.6)	5,542.2	265	2,187.5	216	20,750	340	15
368	402	NISSAN SHATAI[j]	JAPAN	3,763.0	12.0	21.3	397	18.1	1,369.2	480	453.7	462	5,443	480	17
369	387	HONAM OIL REFINERY	SOUTH KOREA	3,726.7	6.1	63.2	346	9.3	2,987.3	422	957.5	387	2,105	497	18
370	410	SHISEIDO[j]	JAPAN	3,719.8	13.9	111.4	280	41.2	4,254.9	330	1,929.3	247	22,184	326	23
371	332	STEEL AUTHORITY OF INDIA[d,i]	INDIA	3,663.9*	(11.9)	136.3	254	19.1	6,952.8	213	2,418.7	197	192,364	19	15
372	337	EATON	U.S.	3,659.0	(10.8)	74.0‡	335	(58.7)	3,087.0	415	1,153.0	354	35,656	203	17
373	390	YAMAHA[j]	JAPAN	3,654.4	4.7	53.4	359	25.5	3,432.1	389	1,147.6	355	18,582	362	26
374	398	FARMLAND INDUSTRIES[e,25]	U.S.	3,652.1	8.1	N.A.		—	1,369.2	481	497.4	457	7,554	462	8
375	457	MITSUI MINING & SMELTING[j]	JAPAN	3,651.2	27.1	45.1	367	(39.8)	3,131.2	411	297.5	475	7,052	469	15
376	383	CSR[f]	AUSTRALIA	3,635.9	2.0	253.4	172	(19.4)	4,808.2	299	2,162.7	218	20,000	348	4
377	399	NICHIREI[j]	JAPAN	3,634.8	7.7	19.0	403	(32.9)	2,453.7	452	581.2	447	7,217	466	8
378	232	PETROGAL (PETR. DE PORTUGAL)[g]	PORT.	3,627.6	23.5	105.2	287	319.2	2,365.4	457	797.2	416	4,195	489	18
379	376	TIMES MIRROR	U.S.	3,624.1	(0.2)	82.0	323	(54.6)	4,052.2	350	1,884.0	252	27,732	271	20
380	406	SCHERING-PLOUGH	U.S.	3,615.6	8.8	645.6	69	14.2	4,013.2	353	1,346.1	325	20,200	345	19
381	●	VARITY[j,l]	CANADA	3,605.1	45.4	94.4	302	0.1	3,469.6	384	731.4	426	18,731	359	17
382	320	COURTAULDS[l]	BRITAIN	3,602.5	(16.8)	140.0	250	(1.9)	2,383.0	454	762.2	421	24,200	305	5
383	372	AMERICAN STANDARD	U.S.	3,595.3	(1.5)	(143.2)‡	450	—	3,285.5	400	(313.0)	490	32,000	233	4
384	388	AVON PRODUCTS	U.S.	3,593.3	2.4	135.7‡	255	(30.5)	1,728.5	473	251.6	480	30,500	251	23
385	403	TABACALERA[g]	SPAIN	3,589.9	7.5	137.0	253	14.2	2,508.9	447	854.6	402	11,261	431	25
386	364	INGERSOLL-RAND	U.S.	3,586.2	(4.1)	150.6	238	(18.8)	2,979.6	424	1,633.1	288	31,117	245	11
387	417	RECKITT & COLMAN	BRITAIN	3,566.6	10.9	250.3	174	7.5	3,102.9	414	968.0	385	23,000	315	23
388	442	DOOSAN GROUP	SOUTH KOREA	3,559.5	19.3	32.7	386	5.0	3,960.4	356	968.2	384	17,502	375	3
389	367	VALEO	FRANCE	3,523.6	(5.5)	96.6	296	(12.7)	3,316.1	393	1,281.4	335	27,000	278	17
390	380	AGWAY[h,25]	U.S.	3,489.8	(3.3)	N.A.		—	1,880.5	469	253.4	479	14,600	402	8
391	440	UPJOHN	U.S.	3,487.7	15.0	537.4	84	17.9	4,146.9	342	2,005.2	235	19,100	355	19
392	352	NAVISTAR INTERNATIONAL[l]	U.S.	3,487.0	(9.5)	(165.0)	454	—	3,443.0	388	577.0	448	13,472	413	17
393	346	TÜPRAŞ[g]	TURKEY	3,485.0	(10.9)	115.7	276	45.9	1,335.2	482	143.7	484	4,807	485	18
394	408	COATS VIYELLA	BRITAIN	3,484.1	6.0	119.9	272	61.5	3,309.7	395	1,426.7	319	61,055	112	24
395	356	PIONEER INTERNATIONAL[a]	AUSTRALIA	3,475.5*	(9.2)	128.4	261	—	3,632.2	372	1,360.9	322	9,847	444	18
396	453	TOYO SASH[j]	JAPAN	3,474.6	18.7	166.2	223	(1.8)	4,256.7	329	1,856.4	255	11,429	428	14
397	297	ZAMBIA INDUSTRIAL & MINING[d,i]	ZAMBIA	3,468.3	(10.6)	100.2	291	(55.7)	2,494.4	448	941.1	390	146,670	33	16
398	●	TOYOTA AUTO BODY[j]	JAPAN	3,458.6	43.5	27.7	391	37.0	1,034.5	488	328.5	473	7,189	467	17
399	●	NINTENDO[j]	JAPAN	3,455.8	—	487.1	90	—	3,025.4	419	1,782.5	269	2,285	495	26
400	409	NISSHIN STEEL[j]	JAPAN	3,453.9	5.4	180.7	218	(22.8)	5,068.9	283	1,881.6	253	8,626	450	15

Footnotes, definitions, and concepts underlying the figures in this directory are on page 191.

1991	1990			SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank	EMPLOYEES Number	EMPLOYEES Rank	Industry table number
401	423	DAIDO STEEL[3]	JAPAN	3,445.0	10.2	76.4	332	(4.9)	3,511.2	378	902.7	399	10,648	437	15
402	422	HONSHU PAPER[3]	JAPAN	3,442.7	9.0	34.2	385	(6.6)	4,068.5	348	664.5	436	7,269	465	9
403	370	GKN	BRITAIN	3,432.5	(6.6)	65.3	344	(17.5)	3,115.7	413	1,236.2	338	31,372	242	17
404	411	PITNEY BOWES	U.S.	3,417.1	4.6	295.3	156	38.4	6,380.6	232	1,800.7	264	29,421	256	6
405	393	CUMMINS ENGINE	U.S.	3,405.5	(1.6)	(14.1)	422	—	2,041.2	466	623.8	441	22,900	319	11
406	446	ONODA CEMENT[3]	JAPAN	3,404.5	14.4	159.5	232	194.3	4,920.7	294	849.6	403	3,517	492	4
407	351	INLAND STEEL INDUSTRIES	U.S.	3,404.5	(12.0)	(275.1)	462	—	2,697.8	438	1,062.4	366	18,600	361	15
408	434	KYOCERA[1]	JAPAN	3,395.5	10.7	228.3	189	(3.6)	4,793.4	302	3,506.3	138	31,749	237	7
409	396	GANNETT	U.S.	3,382.0	(2.0)	301.6	149	(20.0)	3,684.1	368	1,539.5	299	36,700	199	20
410	441	SHIN-ETSU CHEMICAL[3]	JAPAN	3,367.4	11.3	186.6	210	(3.4)	4,179.9	337	1,598.3	292	11,625	427	5
411	459	WHITBREAD[2]	BRITAIN	3,367.4*	—	296.6	154	—	7,135.4	210	4,960.7	95	65,648	102	3
412	385	KYMMENE†	FINLAND	3,363.8	(5.0)	(208.3)	457	(598.5)	6,845.2	216	1,976.1	239	17,387	379	9
413	381	UNION MINIÈRE[26]	BELGIUM	3,360.7	(6.9)	(148.4)	451	(236.3)	3,519.5	377	1,318.6	330	14,730	399	15
414	369	ZF FRIEDRICHSHAFEN[27]	GERMANY	3,352.1	(9.0)	165.2	226	36.6	3,046.3	417	617.4	442	33,182	221	17
415	432	SUMITOMO HEAVY INDUSTRIES[3]	JAPAN	3,317.9	7.5	42.5	371	10.9	4,526.0	312	534.8	452	11,282	430	11
416	449	YOKOHAMA RUBBER	JAPAN	3,310.3	11.7	37.7	376	(44.0)	3,464.2	386	687.3	433	13,346	415	21
417	461	ALPS ELECTRIC[1]	JAPAN	3,307.3	15.8	57.7	354	1,245.6	3,200.5	407	978.5	383	22,518	322	7
418	360	KERR-MCGEE	U.S.	3,307.0	(13.0)	102.0	290	(32.0)	3,421.0	390	1,516.0	304	6,072	477	18
419	444	CORNING	U.S.	3,286.8	10.3	316.8	137	8.5	3,852.6	363	2,018.8	231	30,700	249	4
420	454	OMRON[3]	JAPAN	3,286.7	12.8	152.0	236	4.4	4,038.0	352	1,680.5	285	16,835	387	7
421	467	UNIVERSAL[6]	U.S.	3,274.4	16.3	20.2	401	(55.2)	1,275.6	484	389.8	469	20,000	346	25
422	405	SANYO-KOKUSAKU PULP[1]	JAPAN	3,274.0	(1.8)	43.6	370	(42.5)	3,496.8	380	1,026.4	376	6,696	472	9
423	377	COMPAQ COMPUTER	U.S.	3,271.4	(9.8)	130.9	258	(71.2)	2,826.4	428	1,930.7	246	10,000	442	6
424	438	SANKYO[1]	JAPAN	3,269.9	7.3	151.7	237	70.2	3,214.8	406	1,537.1	302	9,592	445	19
425	●	SUN MICROSYSTEMS[6]	U.S.	3,259.8	31.4	190.3	207	71.1	2,326.3	460	1,212.6	344	12,480	422	6
426	421	ITOHAM FOODS[1]	JAPAN	3,231.4	2.2	54.8	356	45.4	1,690.5	475	824.2	409	6,774	471	8
427	427	BESNIER	FRANCE	3,230.3	3.9	53.4	360	(8.9)	2,372.1	456	522.7	454	9,365	448	8
428	420	ULTRAMAR[26]	BRITAIN	3,230.2[2]	1.7	N.A.		—	4,688.1[1]	305	1,782.0[1]	270	3,900[1]	490	18
429	485	NSK[3,29]	JAPAN	3,221.1	20.2	106.4	285	0.6	4,661.6	306	1,699.0	281	17,042	384	14
430	362	TELEDYNE	U.S.	3,217.8	(14.5)	(25.4)	426	(126.8)	1,719.4	474	453.9	461	29,400	257	7
431	●	JOHNSON MATTHEY[2]	BRITAIN	3,211.4	30.7	82.7	320	—	1,252.8	486	509.2	456	7,187	468	14
432	479	MCDERMOTT INTERNATIONAL[1]	PANAMA	3,209.0	18.0	(69.5)	437	—	3,314.0	394	567.5	450	34,000	218	11
433	450	OUTOKUMPU[2,6]†	FINLAND	3,182.0	8.0	(136.9)	447	—	3,667.3	370	742.9	423	17,716	371	15
434	413	MASCO	U.S.	3,176.6	(1.8)	44.9	368	(67.7)	3,785.8	364	1,798.9	265	39,900	187	14
435	452	BOEHRINGER INGELHEIM	GERMANY	3,152.3	7.6	76.6	331	(0.9)	4,042.8	351	1,529.6	303	24,347	304	19
436	445	MEIJI MILK PRODUCTS[3]	JAPAN	3,135.2	5.2	26.0	393	99.4	1,564.2	477	392.7	468	7,961	457	8
437	●	TYCO LABORATORIES[6,10]	U.S.	3,107.9	47.8	117.5	275	(1.4)	2,393.0	453	905.2	398	24,700	303	14
438	407	SODIAAL[25]	FRANCE	3,103.3	(6.1)	N.A.		—	N.A.		N.A.		7,900	458	8
439	469	GOODMAN FIELDER WATTIE[4]	AUSTRALIA	3,095.4	10.4	86.4	313	—	2,381.3	455	933.2	392	23,363	311	8
440	439	AMP	U.S.	3,095.0	1.7	259.7	165	(9.5)	3,006.9	421	1,913.0	250	25,000	295	7
441	430	HARRIS[6]	U.S.	3,081.5	(0.5)	19.5	402	(85.1)	2,485.8	450	1,028.4	374	30,700	250	7
442	●	VITRO	MEXICO	3,074.8	—	189.8	208	—	4,417.8	321	1,944.0	244	45,091	165	4
443	443	SEIKO	JAPAN	3,069.7	2.9	3.6	413	(71.5)	2,745.3	431	236.2	482	8,039	456	12
444	●	LUCKY	SOUTH KOREA	3,052.1	35.4	34.3	384	(60.6)	4,205.1	335	989.0	380	12,000	425	5
445	371	HINDUSTAN PETROLEUM[5,3]	INDIA	3,048.7*	3.8	66.9	342	(44.4)	1,070.6	487	403.2	467	10,020	441	18
446	418	SANDVIK	SWEDEN	3,033.7	(5.4)	209.1	198	(49.0)	4,165.4	339	2,271.6	207	26,237	286	14
447	●	PETROLEUM AUTH. OF THAILAND[5,9]	THAI.	3,033.7	34.8	239.7	181	100.7	1,784.2	471	777.5	419	3,700	491	18
448	436	BORAL[4]	AUSTRALIA	3,027.2	(1.0)	165.8	224	(33.1)	3,250.3	403	1,660.3	287	23,000	316	4
449	●	DAIKIN INDUSTRIES[3]	JAPAN	3,024.1	19.1	115.6	277	24.3	2,649.7	440	872.0	400	10,466	438	11
450	401	SASOL[6]	SOUTH AFRICA	3,013.3	58.4	397.1	108	40.7	3,695.6	367	1,670.9	286	32,100	232	5

401–450

Footnotes, definitions, and concepts underlying the figures in this directory are on page 191.

CONTINUED

THE GLOBAL

500

THE WORLD'S LARGEST INDUSTRIAL CORPORATIONS

451-500

1991	1990			SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank	EMPLOYEES Number	EMPLOYEES Rank	Industry table number
451	425	INCO	CANADA	2,999.2	(4.0)	82.6	321	(81.3)	4,477.6	317	1,733.9	277	18,369	365	16
452	493	REED INTERNATIONAL[1]	BRITAIN	2,990.1	13.6	252.3	173	(26.1)	4,645.8	307	2,295.8	205	19,000	357	20
453	•	WELLCOME[2]	BRITAIN	2,979.8	18.6	456.5	97	52.8	3,033.4	418	1,849.2	257	18,711	360	19
454	435	MAYTAG	U.S.	2,970.6	(2.8)	79.0	327	(20.1)	2,535.1	445	1,010.6	379	22,533	321	7
455	•	KVAERNER†	NORWAY	2,969.8	—	114.8	278	—	3,306.1	396	848.1	404	17,920	368	11
456	462	UNION CAMP	U.S.	2,967.1	4.5	124.8	266	(45.6)	4,697.7	304	1,936.3	245	20,667	341	9
457	495	VF	U.S.	2,965.9	13.0	161.3	230	98.9	2,126.9	463	938.1	391	49,200	152	2
458	455	AIR PRODUCTS & CHEMICALS	U.S.	2,950.4	1.4	248.9	175	8.3	4,227.5	332	1,841.3	258	14,600	403	5
459	•	CITIZEN WATCH[1]	JAPAN	2,950.4	24.4	120.5	270	79.7	2,735.2	432	1,040.8	371	20,000	347	12
460	419	MO DO	SWEDEN	2,950.0	(7.5)	1.2	416	(99.4)	5,317.6	273	1,323.5	328	12,872	419	9
461	•	JEFFERSON SMURFIT	U.S.	2,941.6	1.0	(77.1)	440	(454.0)	2,460.1	451	(976.9)	491	18,100	367	9
462	415	HERCULES	U.S.	2,928.9	(9.0)	94.9	301	(1.2)	3,466.8	385	1,918.4	249	17,324	380	5
463	477	KANTO AUTO WORKS[1]	JAPAN	2,923.3	7.0	20.5	400	(17.3)	860.6	490	279.4	477	6,084	476	17
464	464	CIMENTS FRANÇAIS	FRANCE	2,916.7	2.8	71.1	338	(60.5)	5,988.1	251	986.7	382	18,181	366	4
465	494	BERKSHIRE HATHAWAY	U.S.	2,913.5	11.0	439.9	102	11.7	14,461.9	98	7,378.9	53	22,000	329	20
466	497	BAKER HUGHES[2]	U.S.	2,911.9	11.4	173.5	219	22.0	2,905.6	425	1,545.4	297	21,300	336	11
467	475	LIEBHERR-INTERNATIONAL	SWITZERLAND	2,902.0	4.8	N.A.		—	N.A.		N.A.		16,208	392	11
468	480	HERSHEY FOODS	U.S.	2,901.6	6.8	219.5	195	1.7	2,341.8	459	1,335.3	327	14,000	408	8
469	456	PEARSON	BRITAIN	2,900.2	(0.1)	240.7	178	14.3	3,612.2	373	1,820.1	260	28,492	266	20
470	•	GRUNDIG[1]	GERMANY	2,887.6	39.2	120.0	271	50.1	1,535.2	478	573.4	449	21,747	331	7
471	460	DAF	NETHERLANDS	2,871.0	0.5	(211.0)	458	—	3,250.8	401	473.3	458	13,623	411	17
472	•	TOTO[1]	JAPAN	2,869.2	15.7	119.4	273	(5.0)	2,706.9	437	1,431.9	317	12,618	420	4
473	328	WHITMAN	U.S.	2,866.2	(32.3)	97.6	295	405.7	2,123.0	464	461.9	460	14,703	400	3
474	•	SÜDZUCKER[2]	GERMANY	2,864.4	50.0	78.2	329	461.6	3,659.9	371	784.5	417	11,362	429	8
475	468	DAISHOWA PAPER MANUFACTURING[1]	JAPAN	2,850.8	1.4	3.4	414	(90.8)	6,215.3	240	664.9	435	7,501	463	9
476	290	ISCOR[4]	SOUTH AFRICA	2,843.9	5.9	228.3	188	(35.2)	3,356.0	392	2,248.0	211	59,000	117	15
477	•	NISSAN DIESEL MOTOR[1]	JAPAN	2,843.1	13.4	21.0	399	(4.0)	2,725.7	434	433.9	464	5,206	482	17
478	428	COAL INDIA[3,5]	INDIA	2,838.4*	(2.0)	(0.1)	419	(100.3)	5,004.5	289	3,054.9	158	670,515	2	16
479	484	GEO. A. HORMEL[6]	U.S.	2,836.2	5.8	86.4	314	12.0	856.8	491	583.4	446	8,300	452	8
480	448	RANKS HOVIS MCDOUGALL[2]	BRITAIN	2,831.8	(4.6)	144.7	247	(60.5)	2,780.1	430	1,759.3	275	30,340	252	8
481	•	CARL-ZEISS-STIFTUNG[7]	GERMANY	2,826.4	38.8	39.2	375	66.1	2,494.1	449	471.9	459	32,382	227	22
482	395	DASSAULT AVIATION	FRANCE	2,819.7	(20.7)	26.1	392	(50.2)	6,378.1	233	700.8	431	14,463	404	1
483	476	PREMARK INTERNATIONAL	U.S.	2,815.7	3.1	102.3	289	96.6	2,034.0	467	836.4	407	24,000	306	21
484	•	CAMPINA MELKUNIE[2,3]	NETHERLANDS	2,812.8	11.2	N.A.		—	1,284.6‡	483	292.0‡	476	6,800‡	470	8
485	458	ENTR. MINIÈRE & CHIMIQUE[2]	FRANCE	2,812.6	(2.5)	(44.2)	433	(1,268.0)	2,592.6	444	192.7	483	13,530	412	5
486	486	SCHINDLER HOLDING	SWITZERLAND	2,809.6	5.1	60.9	349	(36.7)	2,519.8	446	798.4	415	32,268	228	27
487	465	ROHM & HAAS	U.S.	2,785.0	(1.8)	163.0	229	(21.2)	2,897.0	426	1,231.0	340	12,900	418	5
488	426	OWENS-CORNING FIBERGLAS	U.S.	2,783.0	(10.5)	(742.0)	481	(1,116.4)	2,106.0	463	(1,076.0)	492	17,300	381	4
489	404	CODELCO-CHILE[3]	CHILE	2,774.0	(16.9)	292.9	159	(52.9)	4,228.7	331	2,267.2	208	26,759	280	16
490	474	BHARAT PETROLEUM[3,5]	INDIA	2,761.4*	(5.8)	72.4	337	(1.7)	910.4	489	338.6	471	11,029	432	18
491	•	SIEBE[1]	BRITAIN	2,756.3	23.0	164.5	227	(4.3)	3,243.5	404	1,043.9	370	32,749	225	22
492	•	UNITIKA[1]	JAPAN	2,743.9	10.9	37.5	377	39.8	3,242.1	405	263.5	478	7,642	461	24
493	447	KEMIRA[2,†]	FINLAND	2,738.2	(7.9)	(163.6)	453	—	3,945.5	357	654.7	438	14,321	407	5
494	•	BEIERSDORF	GERMANY	2,707.9	10.5	88.1	308	22.4	1,950.0	468	704.6	430	18,500	363	23
495	483	PERNOD RICARD	FRANCE	2,699.2*	(0.0)	169.5	222	(16.3)	3,509.7	379	1,538.4	300	10,762	436	3
496	•	UNION LAITIERE NORMANDE	FRANCE	2,694.0	30.2	1.7	415	(93.4)	1,268.6	485	88.0	488	5,000	483	8
497	•	MITSUI PETROCHEM. INDUSTRIES[1]	JAPAN	2,692.0	13.1	84.4	317	(37.0)	3,444.5	387	1,012.0	378	5,323	481	5
498	•	SEAGATE TECHNOLOGY[2]	U.S.	2,691.4	10.7	67.5	341	(42.5)	1,880.1	470	766.3	420	42,866	176	6
499	•	EG&G	U.S.	2,691.3	8.6	81.2	324	9.8	697.9	492	420.7	465	35,656	204	22
500	•	PENNZOIL	U.S.	2,685.1	13.5	21.0	398	(77.6)	5,231.4	277	1,165.0	350	11,694	426	18
TOTALS				5,188,081.8		128,504.9			5,580,725.4		1,737,338.5		26,181,795		

NOTES

DEFINITIONS AND EXPLANATIONS

SALES

All companies on the list must have derived more than 50% of their sales from manufacturing and/or mining. Sales of consolidated subsidiaries are included. Sales figures do not include excise taxes collected by manufacturers, and so the figures for some corporations—most of which sell gasoline, liquor, or tobacco—may be lower than those published by the corporations themselves. Figures have been converted to dollars using the average official exchange rate during each company's fiscal year (ended December 31, 1991, unless otherwise noted).

PROFITS

Profits are shown after taxes and after extraordinary credits or charges if any appear on the income statement. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the profits shown; a double dagger (‡), an extraordinary charge of at least 10%. Figures in parentheses indicate a loss. Profit declines over 100% reflect swings from 1990 profits to 1991 losses. Cooperatives provide only "net margin" figures, not comparable with the profits figures in these listings, and therefore N.A. is shown in that column. Figures have been converted to dollars using the average official exchange rate during each company's fiscal year (ended December 31, 1991, unless otherwise noted).

ASSETS

Assets shown are those at the company's fiscal year-end. Figures have been converted to dollars at the official exchange rate at each company's year-end.

STOCKHOLDERS' EQUITY

Stockholders' equity is the sum of capital stock, surplus, and retained earnings at the company's year-end. Minority interest is not included. Figures have been converted to dollars at the official exchange rate at each company's year-end.

EMPLOYEES

The figure shown is either a year-end or yearly average number as published.

INDUSTRY TABLES

Industry table numbers used in the directory indicate the groups in which companies are placed in "The Global 500/The Biggest Companies by Industry." Companies are included in the industry that represents the greatest volume of their industrial sales. Industry groups are based on categories established by the U.S. Office of Management and Budget.

MEDIANS

The median figures in the tables refer only to results of companies in the 500; no attempt has been made to calculate medians in groups with fewer than four companies. The medians for profit changes from 1990 do not include companies that lost money in both 1990 and 1991; no meaningful percentage changes can be calculated in such cases.

The figures in this FORTUNE 500 Directory were prepared by associate editor Wilton Woods.

FOOTNOTES TO THE 500

N.A. Not available.
‡ Fortune estimate. G Government owned.
* Does not include excise taxes; see explanation of "sales" above.
† Differing national tax laws and accounting practices affect reported profit and stockholders' equity; these figures conform to International Accounting Standards or are as they would appear under U.S. Generally Accepted Accounting Practices.
** Reflects an extraordinary credit of at least 10%; see the explanation of "profits" above.
‡ Reflects an extraordinary charge of at least 10%; see the explanation of "profits" above.

1

[1] Figures are for fiscal year ended January 31, 1991.
[2] Figures are for fiscal year ended February 28, 1991.
[3] Figures are for fiscal year ended March 31, 1991.
[4] Figures are for fiscal year ended April 30, 1991.
[5] Figures are for fiscal year ended May 31, 1991.
[6] Figures are for fiscal year ended June 30, 1991.
[7] Figures are for fiscal year ended July 31, 1991.
[8] Figures are for fiscal year ended August 31, 1991.
[9] Figures are for fiscal year ended September 30, 1991.

10

[10] Figures are for fiscal year ended October 31, 1991.
[11] Figures are for fiscal year ended November 30, 1991.
[12] Name changed from Philips' Gloeilampenfabriken in May 1991.
[13] Figures include Beatrice (1990 rank: 115), acquired August 1990.
[14] Stock split into two classes; figures are pro forma.
[15] Acquired Hawker Siddeley Group in November 1991.
[16] Fiscal year ended October 20, 1991; figures converted as of October 31, 1991.
[17] Formed by merger of Mitsubishi Metal and Mitsubishi Mining & Cement in December 1990.
[18] Fiscal year ended September 14, 1991; figures converted as of August 31, 1991.
[19] Name changed from Elders IXL (1990 Global Service 500 rank: S-39) in November 1990.

20

[20] Owned by Amer. Finan. (1990 U.S. Service 500 rank: S-7).
[21] New company spun off from BAT Industries (1990 rank: 56).
[22] Name changed from KF Industri.
[23] Sales figure is for the Central Selling Organization. Figures consolidate De Beers Centenary.
[24] Fiscal year ended April 20, 1991; figures converted as of April 30, 1991.
[25] Cooperative provides only net margin figures, which are not comparable with the after-tax profit figures on this list.
[26] Name changed from ACEC–Union Miniere in May 1992.
[27] Name changed from Zahnradfabrik Friedrichshafen in January 1992.
[28] Acquired December 1991 by Lasmo, but not consolidated; Lasmo was still too small to qualify for the 1991 list.
[29] Name changed from Nippon Seiko KK in June 1991.
[30] Fiscal-year end changed from May 31; figures are for 12 months ended June 30, 1991.

ARRIVALS AND DEPARTURES

NEWCOMERS TO THE 500

	GLOBAL 500 RANK
ARJO WIGGINS APPLETON	317
BEIERSDORF	494
CAMPINA MELKUNIE	484
CARL-ZEISS-STIFTUNG	481
CITIZEN WATCH	459
DAIKIN INDUSTRIES	449
EG&G	499
GRUNDIG	470
JEFFERSON SMURFIT	461
KIA MOTORS	350
KVAERNER	455
LUCKY	444
MITSUI PETROCHEMICAL INDUSTRIES	498
NINTENDO	399
PENNZOIL	500
PETROL. AUTH. OF THAILAND	447
SEAGATE TECHNOLOGY	498
SIEBE	491
SÜDZUCKER	474
SUN MICROSYSTEMS	425
SUNTORY	366
TETRA PAK ALFA-LAVAL	182
TOTO	472
TOYOTA AUTO BODY	398
TYCO LABORATORIES	437
UNION LAITIERE NORMANDE	497
VARITY	381
VITRO	442
WELLCOME	453
YPF	284

RETURNED TO THE 500

FOSTER'S BREWING (1989: 112)	266
JOHNSON MATTHEY (1989: 491)	431
NISSAN DIESEL MOTOR (1989: 487)	477
SCHNEIDER (1989: 184)	130
UNITIKA (1989: 476)	492

DISPLACED FROM THE 500

	1990 GLOBAL 500 RANK
ABITIBI-PRICE	490
ALFA-LAVAL	423
ATLAS COPCO	475
AVERY DENNISON	499
BAT INDUSTRIES	55
BEATRICE	320
BOND CORP. HOLDINGS	266
BÜHRMANN-TETTERODE	435
COOKSON GROUP	493
DIAMOND SHAMROCK	482
DOFASCO	471
ENGELHARD	449
ENSO-GUTZEIT	472
ESSELTE	473
HAWKER SIDDELEY GROUP	343
KIEWIT (PETER) SONS'	277
MAPCO	481
MITSUBISHI MINING & CEMENT	491
MOORE	464
NCR	218
NOVA	337
OERLIKON-BÜHRLE	397
OLIN	500
PACCAR	467
PHELPS DODGE	492
QUANTUM CHEMICAL	498
SAARBERGWERKE	427
SCHLUMBERGER	259
SIDERBRÁS	312
SSAB SVENSKT STÅL	478
THORN EMI	235
VALE DO RIO DOCE	374
VALMET	489
WANG LABORATORIES	494
WICKES	373

CONTINUED

THE GLOBAL 500 PERFORMANCE

To get big profits, it helps to be a big company, but if you can't be that, be a drug company. Fully one-fourth of the companies boasting the highest returns on sales and assets were in the pharmaceutical business. Petronas, enjoying the top spot on the return-on-sales ranking, is a government-owned entity that gets a cut of all the oil and gas produced in Malaysia. Second place goes to the De Beers diamond cartel, another nice little monopoly. Then comes a bunch of drug companies, mixed with vendors of spirits and tobacco.

Most of the biggest employers apparently wish they weren't: No. 1 General Motors, Daimler-Benz, IBM, and even Italy's overstaffed IRI have announced job reductions. The world's No. 2 employer, Coal India, isn't cutting back but it should. The swollen payroll ate up more than half its revenues and left the company with a loss.

BIGGEST INCREASES IN SALES

RANK		GLOBAL 500 RANK	SALES % change from 1990	SALES $ millions
1	ROTHMANS INTERNATIONAL	318	71.0	4,421.8
2	ARJO WIGGINS APPLETON	317	65.2	4,462.0
3	SASOL	450	58.4	3,013.3
4	SSANGYONG GROUP	101	57.6	12,719.8
5	SÜDZUCKER	474	50.0	2,864.4
6	ASSOCIATED BRITISH FOODS	218	49.3	6,731.3
7	TYCO LABORATORIES	437	47.8	3,107.9
8	MITSUBISHI OIL	230	46.8	6,239.8
9	VARITY	381	45.4	3,605.1
10	PETRONAS	237	43.8	6,155.5
11	TOYOTA AUTO BODY	398	43.5	3,458.6
12	GRUNDIG	470	39.2	2,887.6
13	CARL-ZEISS-STIFTUNG	481	38.8	2,826.4
14	GLAXO HOLDINGS	217	36.2	6,747.3
15	LUCKY	444	35.4	3,052.1
16	NKK	87	35.1	13,850.8
17	BURMAH CASTROL	333	34.9	4,174.7
18	PETROL. AUTH. OF THAILAND	447	34.8	3,033.7
19	AÉROSPATIALE	162	33.1	8,615.8
20	SUN MICROSYSTEMS	425	31.4	3,259.8
21	JOHNSON MATTHEY	431	30.7	3,211.4
22	UNION LAITIÈRE NORMANDE	496	30.2	2,694.0
23	DEUTSCHE BABCOCK	316	30.2	4,500.8
24	NEWS CORP.	161	28.6	8,661.7
25	MITSUI MINING & SMELTING	375	27.1	3,651.2
26	SONY	40	27.0	26,581.4
27	CEA-INDUSTRIE	211	26.4	6,898.2
28	YAMAZAKI BAKING	341	26.3	4,064.5
29	MITSUBISHI PETROCHEMICAL	338	26.1	4,113.9
30	CONAGRA	56	25.7	19,504.7
31	SUZUKI MOTOR	160	24.5	8,661.9
32	KLÖCKNER-WERKE	325	24.5	4,308.9
33	FUJI HEAVY INDUSTRIES	248	24.5	5,912.5
34	CITIZEN WATCH	459	24.4	2,950.4
35	BSN	111	23.6	12,012.1
36	CROWN CORK & SEAL	363	23.6	3,807.4
37	PETROGAL	378	23.5	3,627.6
38	ROCHE	164	23.2	8,570.1
39	SIEBE	491	23.0	2,756.3
40	IDEMITSU KOSAN	77	22.5	14,802.2
41	SUNKYONG	96	22.2	13,067.5
42	RICOH	198	21.8	7,258.3
43	MITSUBISHI MATERIALS	215	21.6	6,789.0
44	NIPPON OIL	65	21.6	17,836.5
45	TOYOTA MOTOR	5	21.0	78,061.3
46	ISHIKAWAJIMA-HARIMA HVY. IND.	207	20.9	6,985.6
47	BERTELSMANN	152	20.8	9,104.0
48	COSMO OIL	132	20.4	10,287.2
49	ALLIED-LYONS	176	20.3	8,105.1
50	NIPPON MINING	178	20.2	8,030.6
	THE 500 MEDIAN		4.8	5,843.2

HIGHEST PROFITS

RANK		GLOBAL 500 RANK	PROFITS $ millions	PROFITS % change from 1990
1	EXXON	3	5,600.0	11.8
2	ROYAL DUTCH/SHELL GROUP	2	4,249.3	(34.0)
3	TOYOTA MOTOR	5	3,143.2	5.0
4	PHILIP MORRIS	14	3,006.0	(15.1)
5	GENERAL ELECTRIC	8	2,636.0	(38.7)
6	MERCK	157	2,121.7	19.1
7	BRISTOL-MYERS SQUIBB	122	2,056.0	17.6
8	MOBIL	11	1,920.0	(0.5)
9	UNILEVER	20	1,842.6	29.2
10	MATSUSHITA ELECTRIC IND.	13	1,832.5	11.1
11	PROCTER & GAMBLE	38	1,773.0	10.7
12	ELF AQUITAINE	25	1,737.1	(11.0)
13	HANSON	114	1,730.4	7.4
14	NESTLE	26	1,722.3	5.4
15	PETRONAS	237	1,654.9	47.8
16	HITACHI	12	1,629.2	10.3
17	COCA-COLA	116	1,618.0	17.1
18	BOEING	32	1,567.0	13.1
19	GLAXO HOLDINGS	217	1,559.4	20.7
20	AMOCO	41	1,484.0	(22.4)
21	JOHNSON & JOHNSON	106	1,461.0	27.8
22	E.I. DU PONT DE NEMOURS	22	1,403.0	(39.3)
23	AMERICAN HOME PRODUCTS	204	1,375.3	11.8
24	ALLIED-LYONS	176	1,332.2	113.0
25	ELI LILLY	257	1,314.7	16.6
26	TEXACO	23	1,294.0	(10.8)
27	CHEVRON	24	1,293.0	(40.1)
28	MINNESOTA MINING & MFG.	90	1,154.0	(11.8)
29	SIEMENS	17	1,135.2	24.3
30	DAIMLER-BENZ	10	1,129.4	8.4
31	BROKEN HILL PROPRIETARY	104	1,118.4	32.3
32	BAYER	42	1,100.5	(5.4)
33	ALCATEL ALSTHOM	36	1,095.9	16.2
34	ABBOTT LABORATORIES	210	1,088.7	12.7
35	PEPSICO	54	1,080.2	0.3
36	GUINNESS	271	1,052.2	5.8
37	ROCHE	164	1,033.4	51.5
38	TOTAL	44	1,030.3	34.7
39	PEUGEOT	35	979.9	(42.4)
40	BTR	109	979.7	2.4
41	DE BEERS CONSOL. MINES	349	966.9	(31.8)
42	IMPERIAL CHEMICAL IND.	49	958.4	(19.9)
43	DOW CHEMICAL	58	942.0	(31.9)
44	ANHEUSER-BUSCH	128	939.8	11.6
45	GEC (GENERAL ELECTRIC CO.)	119	917.8	(16.9)
46	FIAT	15	898.7	(33.3)
47	CIBA-GEIGY	74	892.5	20.1
48	ENI	21	872.0	(48.6)
49	TOSHIBA	27	855.4	(7.3)
50	SMITHKLINE BEECHAM	171	838.2	(45.9)
THE 500 MEDIAN			145.0	

BIGGEST INCREASES IN PROFITS*

RANK		GLOBAL 500 RANK	PROFITS % change from 1990	PROFITS $ millions
1	CAMPBELL SOUP	232	9,025.0	401.5
2	BAXTER INTERNATIONAL	156	1,377.5	591.0
3	ALPS ELECTRIC	417	1,245.6	57.7
4	PROCORDIA	224	829.4	497.4
5	SUDZUCKER	474	461.6	78.2
6	DAIHATSU MOTOR	229	440.0	49.9
7	WHITMAN	473	405.7	97.6
8	PETROGAL	378	319.2	105.2
9	NIPPON LIGHT METAL	312	317.1	354.8
10	SAAB-SCANIA	276	287.2	230.9
11	HYUNDAI HEAVY INDUSTRIES	213	270.7	310.8
12	SUMITOMO RUBBER IND.	329	263.8	29.6
13	MITSUBISHI MATERIALS	215	205.4	320.3
14	ONODA CEMENT	406	194.3	159.5
15	SUZUKI MOTOR	160	189.5	111.7
16	SHOWA SHELL SEKIYU	137	180.3	196.8
17	MITSUBISHI OIL	230	155.2	87.2
18	RENAULT	30	145.6	545.8
19	WHIRLPOOL	216	136.1	170.0
20	CHINESE PETROLEUM	166	135.5	825.8
21	NIPPON MINING	178	119.1	36.3
22	ALLIED-LYONS	176	113.0	1,332.2
23	ABB ASEA BROWN BOVERI	33	109.6	587.0
24	PETROL. AUTH. OF THAILAND	447	100.7	239.7
25	MEIJI MILK PRODUCTS	436	99.4	26.0
26	VF	457	98.9	161.3
27	YAMAHA MOTOR	288	98.7	90.8
28	PREMARK INTERNATIONAL	483	96.6	102.3
29	XEROX	66	86.8	454.0
30	BRIDGESTONE	93	82.5	53.7
31	CITIZEN WATCH	459	79.7	120.8
32	CEPSA	327	79.4	126.6
33	POHANG IRON & STEEL	179	77.8	197.8
34	ASAHI BREWERIES	285	74.6	35.3
35	BERTELSMANN	152	74.0	339.4
36	SUN MICROSYSTEMS	425	71.1	190.3
37	SANKYO	424	70.2	151.7
38	HILLSDOWN HOLDINGS	169	69.8	183.4
39	JAPAN TOBACCO	193	67.4	362.4
40	CARL-ZEISS-STIFTUNG	481	66.1	39.2
41	FUJI ELECTRIC	243	61.7	154.9
42	COATS VIYELLA	394	61.5	119.9
43	COSMO OIL	132	60.8	107.9
44	HYOSUNG GROUP	246	53.3	86.9
45	WELLCOME	453	52.8	456.5
46	ROCHE	164	51.5	1,033.4
47	GRUNDIG	470	50.1	120.0
48	FRIED. KRUPP	151	47.8	147.8
49	PETRONAS	237	47.8	1,654.9
50	YAMAZAKI BAKING	341	46.1	102.3
THE 500 MEDIAN			(5.7)	

*Excludes companies that lost money in 1990.

CONTINUED

THE GLOBAL 500 RANKED BY

PERFORMANCE

HIGHEST RETURNS ON . . . SALES

RANK		GLOBAL 500 RANK	PROFITS as % of sales
1	PETRONAS	237	26.9
2	DE BEERS CONSOL. MINES	349	24.6
3	MERCK	157	24.2
4	GLAXO HOLDINGS	217	23.1
5	ELI LILLY	257	23.0
6	GUINNESS	271	19.6
7	AMERICAN HOME PRODUCTS	204	19.4
8	BRISTOL-MYERS SQUIBB	122	18.2
9	SCHERING-PLOUGH	380	17.9
10	INTEL	297	17.1
11	LVMH	355	17.0
12	ALLIED-LYONS	176	16.4
13	ABBOTT LABORATORIES	210	15.7
14	UPJOHN	391	15.4
15	WELLCOME	453	15.3
16	BERKSHIRE HATHAWAY	465	15.1
17	HANSON	114	14.6
18	SEAGRAM	273	14.3
19	NINTENDO	399	14.1
20	COCA-COLA	116	14.0
21	SASOL	450	13.2
22	ROCHE	164	12.1
23	JOHNSON & JOHNSON	106	11.7
24	CODELCO-CHILE	489	10.6
25	KELLOGG	252	10.5
26	ROTHMANS INTERNATIONAL	318	10.4
27	SMITHKLINE BEECHAM	171	10.1
28	PFIZER	203	10.1
29	CHINESE PETROLEUM	166	9.6
30	CORNING	419	9.6
31	AMERICAN BRANDS	168	9.6
32	GILLETTE	301	9.1
33	BROKEN HILL PROPRIETARY	104	9.0
34	GANNETT	409	8.9
35	WHITBREAD	411	8.8
36	MINNESOTA MINING & MFG.	90	8.7
37	PITNEY BOWES	404	8.6
38	ANHEUSER-BUSCH	128	8.5
39	EMERSON ELECTRIC	190	8.5
40	H.J. HEINZ	219	8.5
41	REED INTERNATIONAL	452	8.4
42	AIR PRODUCTS & CHEMICALS	458	8.4
43	AMP	440	8.4
44	PEARSON	469	8.3
45	FUJI PHOTO FILM	163	8.2
46	BTR	109	8.1
47	ISCOR	476	8.0
48	GEC (GENERAL ELECTRIC CO.)	119	8.0
49	SANDOZ	138	7.9
50	PETROL. AUTH. OF THAILAND	447	7.9
	THE 500 MEDIAN		2.5

ASSETS

RANK		GLOBAL 500 RANK	PROFITS as % of assets
1	AMERICAN HOME PRODUCTS	204	23.2
2	MERCK	157	22.3
3	BRISTOL-MYERS SQUIBB	122	21.8
4	ABBOTT LABORATORIES	210	17.4
5	GLAXO HOLDINGS	217	16.8
6	NINTENDO	399	16.1
7	SCHERING-PLOUGH	380	16.1
8	ELI LILLY	257	15.8
9	COCA-COLA	116	15.8
10	KELLOGG	252	15.4
11	PETRONAS	237	15.1
12	WELLCOME	453	15.1
13	LYONDELL PETROCHEMICAL	255	15.0
14	JOHNSON & JOHNSON	106	13.9
15	LEVI STRAUSS ASSOCIATES	291	13.5
16	PETROL. AUTH. OF THAILAND	447	13.4
17	INTEL	297	13.0
18	UPJOHN	391	13.0
19	GENERAL MILLS	202	12.1
20	EG&G	499	11.6
21	H.J. HEINZ	219	11.5
22	ALLIED-LYONS	176	11.5
23	GILLETTE	301	11.0
24	SMITHKLINE BEECHAM	171	10.9
25	SASOL	450	10.7
26	MINNESOTA MINING & MFG.	90	10.4
27	GEO. A. HORMEL	479	10.1
28	EMERSON ELECTRIC	190	9.9
29	BOEING	32	9.9
30	RAYTHEON	148	9.7
31	CAMPBELL SOUP	232	9.7
32	ANHEUSER-BUSCH	128	9.4
33	HERSHEY FOODS	468	9.4
34	GEC (GENERAL ELECTRIC CO.)	119	9.3
35	ROTHMANS INTERNATIONAL	318	9.1
36	KIMBERLY-CLARK	212	9.0
37	DE BEERS CONSOL. MINES	349	8.9
38	APPLE COMPUTER	227	8.9
39	TÜPRAŞ	393	8.7
40	PROCTER & GAMBLE	38	8.7
41	AMP	440	8.6
42	RALSTON PURINA	191	8.5
43	KOÇ HOLDING	141	8.5
44	CPC INTERNATIONAL	234	8.3
45	CORNING	419	8.2
46	GANNETT	409	8.2
47	SUN MICROSYSTEMS	425	8.2
48	PROCORDIA	224	8.2
49	GENERAL DYNAMICS	144	8.1
50	RECKITT & COLMAN	387	8.1
	THE 500 MEDIAN		2.5

BIGGEST EMPLOYERS

RANK		GLOBAL 500 RANK	Number of employees
1	GENERAL MOTORS	1	756,300
2	COAL INDIA	478	670,515
3	IRI	7	407,169
4	SIEMENS	17	402,000
5	DAIMLER-BENZ	10	379,252
6	INTL. BUSINESS MACHINES	6	344,553
7	PEPSICO	54	338,000
8	FORD MOTOR	4	332,700
9	HITACHI	12	309,757
10	UNILEVER	20	298,000
11	FIAT	15	287,957
12	GENERAL ELECTRIC	8	284,000
13	VOLKSWAGEN	16	265,566
14	PHILIPS ELECTRONICS	29	240,000
15	ABB ASEA BROWN BOVERI	33	214,399
16	ALCATEL ALSTHOM	36	213,100
17	MATSUSHITA ELECTRIC IND.	13	210,848
18	NESTLE	26	201,139
19	STEEL AUTHORITY OF INDIA	371	192,364
20	SAMSUNG GROUP	18	187,377
21	UNITED TECHNOLOGIES	50	185,100
22	HOECHST	34	179,332
23	ROBERT BOSCH	52	177,123
24	PEMEX	59	166,896
25	PHILIP MORRIS	14	166,000
26	BAYER	42	164,200
27	TOSHIBA	27	162,000
28	BOEING	32	159,100
29	PEUGEOT	35	156,800
30	BARLOW RAND	118	150,900
31	THYSSEN	48	148,557
32	RENAULT	30	147,195
33	ZAMBIA INDUSTRIAL & MINING	397	146,670
34	FUJITSU	51	145,872
35	ENI	61	140,925
36	MICHELIN	112	140,000
37	NISSAN MOTOR	19	138,326
38	ELECTROLUX	91	134,229
39	EASTMAN KODAK	55	133,200
40	E.I. DU PONT DE NEMOURS	22	133,000
41	ROYAL DUTCH SHELL GROUP	2	133,000
42	BASF	37	129,434
43	IMPERIAL CHEMICAL IND.	49	128,600
44	CHRYSLER	31	126,500
45	MANNESMANN	79	125,188
46	BRITISH AEROSPACE	60	123,200
47	RUHRKOHLE	75	122,469
48	GRAND METROPOLITAN	78	122,178
49	DIGITAL EQUIPMENT	86	121,000
50	GEC (GENERAL ELECTRIC CO.)	119	118,529
	THE 500 MEDIAN		29,094

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THE GLOBAL 500 BY INDUSTRY

The giant U.S. corporations still dominate most industries, providing 14 of the top-ranking companies in the 26 industry groups we survey, against Japan's four. But that doesn't mean the Americans were standout performers. Carmakers and their parts suppliers couldn't enjoy their 7.5% increase in sales because of a stunning 73% falloff in profits—much of that due to the big losses at GM and Ford. In computers, IBM's record-breaking loss dragged the entire industry group into the red despite a 17% increase in sales. A 1% decline in oil prices meant a hefty 34% drop in total profits for the petroleum refiners, the largest group on this list of lists. Tire makers posted such small profits that a couple of big losses among them put the rubber industry as a whole in the minus column for the second year. The cyclical forest products business saw its profits cut to a stump as 90% of the group's 1990 profits were chopped off. Though all but a few industries showed a decline from last year's total profits, pharmaceuticals registered a healthy increase; even when the economy is sick, people spend to get well. And even in hard times, you gotta eat: Food company sales climbed almost 4%, while profits rose nearly 3%.

COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
1 AEROSPACE 16 COMPANIES								
1 BOEING U.S.	32	29,314	1,567	1	5	1	10	1
2 UNITED TECHNOLOGIES U.S.	50	21,262	(1,021)	16	(5)	16	(6)	16
3 BRITISH AEROSPACE BRITAIN	60	18,983	(179)	14	(1)	14	(1)	14
4 MCDONNELL DOUGLAS U.S.	62	18,718	423	3	2	8	3	7
5 ALLIED-SIGNAL U.S.	115	11,882	(273)	15	(2)	15	(3)	15
6 LOCKHEED U.S.	139	9,839	308	5	3	6	5	5
7 GENERAL DYNAMICS U.S.	144	9,548	505	2	5	2	8	2
8 AEROSPATIALE FRANCE	162	8,616	17	12	0	12	0	12
9 TEXTRON U.S.	184	7,840	300	6	4	4	2	8
10 ROLLS-ROYCE BRITAIN	228	6,278	42	10	1	11	1	9
11 MARTIN MARIETTA U.S.	239	6,102	313	4	5	3	8	3
12 NORTHROP U.S.	260	5,706	201	7	4	5	6	4
13 SNECMA FRANCE	328	4,243	(12)	13	(0)	13	(0)	13
14 GRUMMAN U.S.	344	4,038	99	8	2	7	4	6
15 MATRA FRANCE	345	4,038	45	9	1	9	1	10
16 DASSAULT AVIATION FRANCE	482	2,820	26	11	1	10	0	11
TOTAL		169,184	2,361					
MEDIAN		8,228	72		2		1	
2 APPAREL 2 COMPANIES								
1 LEVI STRAUSS ASSOC. U.S.	291	4,903	357	1	7	1	14	1
2 VF U.S.	457	2,966	161	2	5	2	8	2
TOTAL		7,869	518					

3 BEVERAGES 18 COMPANIES

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
1	PEPSICO U.S.	54	19,771	1,080	3	5	11	6	8
2	COCA-COLA U.S.	116	11,572	1,618	1	14	5	16	1
3	ANHEUSER-BUSCH U.S.	128	10,996	940	5	9	7	9	5
4	ALLIED-LYONS BRITAIN	176	8,105	1,332	2	16	3	11	2
5	KIRIN BREWERY JAPAN	222	6,491	319	9	5	12	3	13
6	CADBURY SCHWEPPES BRITAIN	254	5,781	359	8	6	9	7	6
7	FOSTER'S BREWING AUSTRALIA	266	5,490	(34)	17	(1)	17	(0)	17
8	GUINNESS BRITAIN	271	5,355	1,052	4	20	1	7	4
9	SEAGRAM CANADA	273	5,293	756	6	14	4	7	7
10	ASAHI BREWERIES JAPAN	285	4,997	35	16	1	16	0	16
11	HEINEKEN NETHERLANDS	339	4,089	237	11	6	10	5	9
12	COCA-COLA ENTERPRISES U.S.	342	4,051	(82)	18	(2)	18	(1)	18
13	LVMH FRANCE	355	3,908	663	7	17	2	7	6
14	SUNTORY JAPAN	366	3,774	36	15	1	14	0	15
15	DOOSAN GROUP SOUTH KOREA	388	3,560	33	14	1	15	1	14
16	WHITBREAD BRITAIN	411	3,367	297	10	9	6	4	12
17	WHITMAN U.S.	473	2,866	98	13	3	13	5	11
18	PERNOD RICARD FRANCE	495	2,699	170	12	6	8	5	10
	TOTAL		112,164	8,908					
	MEDIAN		5,145	308		6		5	

4 BUILDING MATERIALS 19 COMPANIES

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
1	SAINT-GOBAIN FRANCE	92	13,311	445	3	3	11	2	11
2	BTR BRITAIN	109	12,037	980	2	8	3	7	2
3	HANSON BRITAIN	114	11,884	1,730	1	15	1	6	3
4	PPG INDUSTRIES U.S.	258	5,725	276	5	5	7	5	6
5	LAFARGE COPPEE FRANCE	264	5,612	219	7	4	10	2	12
6	PILKINGTON BRITAIN	282	5,016	29	16	1	16	1	16
7	RMC GROUP BRITAIN	290	4,961	124	11	2	13	3	9
8	UBE INDUSTRIES JAPAN	292	4,883	59	15	1	15	1	15
9	HOLDERBANK SWITZERLAND	335	4,161	121	12	3	12	2	13
10	OWENS-ILLINOIS U.S.	360	3,852	(274)	18	(7)	18	(6)	18
11	CSR AUSTRALIA	376	3,636	253	8	7	4	5	4
12	AMERICAN STANDARD U.S.	383	3,595	(143)	17	(4)	17	(4)	17
13	ONODA CEMENT JAPAN	406	3,405	159	10	5	8	3	10
14	CORNING U.S.	419	3,287	317	4	10	2	8	3
15	VITRO MEXICO	442	3,075	190	9	6	5	4	8
16	BORAL AUSTRALIA	448	3,027	166	9	5	6	5	5
17	CIMENTS FRANÇAIS FRANCE	464	2,917	71	14	2	14	1	14
18	TOTO JAPAN	472	2,869	119	13	4	9	4	7
19	OWENS-CORNING U.S.	488	2,783	(742)	19	(27)	19	(35)	19
	TOTAL		100,038	4,100					
	MEDIAN		3,852	159		4		3	

5 CHEMICALS 45 COMPANIES

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
1	E.I. DU PONT DE NEMOURS U.S.	22	38,031	1,403	1	4	20	4	17
2	HOECHST GERMANY	34	28,468	662	7	2	31	3	25
3	BASF GERMANY	37	28,130	627	8	2	32	3	27
4	BAYER GERMANY	42	25,581	1,100	2	4	18	4	14
5	IMPERIAL CHEMICAL IND. BRITAIN	49	22,339	958	3	4	15	5	11
6	DOW CHEMICAL U.S.	58	19,305	942	4	5	11	4	19
7	CIBA-GEIGY SWITZERLAND	74	14,967	893	5	6	7	4	15
8	RHÔNE-POULENC FRANCE	76	14,863	355	12	2	30	2	32
9	NORSK HYDRO NORWAY	142	9,614	(77)	43	(1)	42	(1)	42
10	ASAHI GLASS JAPAN	147	9,438	278	10	3	28	2	30
11	ASAHI CHEMICAL INDUSTRY JAPAN	149	9,387	300	6	3	25	3	22
12	MITSUBISHI KASEI JAPAN	153	9,092	99	32	1	37	1	35
13	AKZO NETHERLANDS	154	9,060	310	15	3	21	4	16
14	MONSANTO U.S.	155	8,929	296	17	3	23	3	24
15	FUJI PHOTO FILM JAPAN	163	8,600	702	6	8	3	6	9
16	SUMITOMO CHEMICAL JAPAN	172	8,204	149	29	2	34	1	33

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THE GLOBAL 500 BY

INDUSTRY

	COMPANY COUNTRY	SALES $ mil.	PROFITS $ mil.	PROFITS AS A % OF SALES %	 ASSETS %
17	SOLVAY BELGIUM	7,626	342	4	4
18	UNION CARBIDE U.S.	7,346	(28)	(0)	(0)
19	W.R. GRACE U.S.	6,949	219	3	4
20	CEA-INDUSTRIE FRANCE	6,898	231	3	1
21	DAINIPPON INK & CHEMICALS JAPAN	6,573	30	1	1
22	HÜLS GERMANY	6,233	(22)	(0)	(0)
23	SEKISUI CHEMICAL JAPAN	5,882	230	4	3
24	LYONDELL PETROCHEMICAL U.S.	5,743	222	4	15
25	L'AIR LIQUIDE FRANCE	5,718	392	7	5
26	DSM NETHERLANDS	5,045	276	5	5
27	AMERICAN CYANAMID U.S.	5,040	359	7	7
28	BOC GROUP BRITAIN	4,972	350	7	6
29	SHOWA DENKO JAPAN	4,854	13	0	0
30	NOBEL INDUSTRIES SWEDEN	4,179	(835)	(20)	(14)
31	BURMAH CASTROL BRITAIN	4,175	80	2	2
32	MITSUBISHI PETROCHEMICAL JAPAN	4,114	185	4	4
33	FMC U.S.	3,932	164	4	6
34	TOYOBO JAPAN	3,914	49	1	1
35	MITSUI TOATSU CHEMICALS JAPAN	3,790	110	3	2
36	COURTAULDS BRITAIN	3,602	140	4	6
37	SHIN-ETSU CHEMICAL JAPAN	3,367	187	6	4
38	LUCKY SOUTH KOREA	3,052	34	1	1
39	SASOL SOUTH AFRICA	3,013	397	13	11
40	AIR PRODS. & CHEMICALS U.S.	2,950	249	8	6
41	HERCULES U.S.	2,929	95	3	3
42	ENTR. MINIÈRE & CHIMIQUE FRANCE	2,813	(44)	(2)	(2)
43	ROHM & HAAS U.S.	2,785	163	6	6
44	KEMIRA FINLAND	2,738	(164)	(6)	(4)
45	MITSUI PETROCHEMICAL IND. JAPAN	2,692	84	3	2
	TOTAL	396,892	12,510		
	MEDIAN	5,882	222	3	3

	COMPANY COUNTRY	SALES $ mil.	PROFITS $ mil.	PROFITS AS A % OF SALES %	 ASSETS %
6	**COMPUTERS, OFFICE EQUIPMENT** 15 COMPANIES				
1	IBM U.S.	65,394	(2,827)	(4)	(3)
2	TOSHIBA JAPAN	33,233	855	3	2
3	FUJITSU JAPAN	21,226	580	3	2
4	HEWLETT-PACKARD U.S.	14,541	755	5	6
5	CANON JAPAN	14,245	388	3	2
6	DIGITAL EQUIPMENT U.S.	14,024	(617)	(4)	(5)
7	UNISYS U.S.	8,696	(1,393)	(16)	(17)
8	RICOH JAPAN	7,258	96	1	1
9	OLIVETTI ITALY	6,943	(371)	(5)	(3)
10	APPLE COMPUTER U.S.	6,309	310	5	9
11	BULL FRANCE	5,972	(585)	(10)	(12)
12	PITNEY BOWES U.S.	3,417	295	9	5
13	COMPAQ COMPUTER U.S.	3,271	131	4	5
14	SUN MICROSYSTEMS U.S.	3,260	190	6	8
15	SEAGATE TECHNOLOGY U.S.	2,691	67	3	4
	TOTAL	210,482	(2,126)		
	MEDIAN	7,258	131	3	2
7	**ELECTRONICS, ELECTRICAL EQUIPMENT** 45 COMPANIES				
1	GENERAL ELECTRIC U.S.	60,236	2,636	4	2
2	HITACHI JAPAN	56,053	1,629	3	3
3	MATSUSHITA ELECTRIC IND. JAPAN	48,595	1,837	4	3
4	SIEMENS GERMANY	44,859	1,135	3	3
5	SAMSUNG GROUP SOUTH KOREA	43,702	347	1	1
6	PHILIPS ELECTRONICS NETHERLANDS	30,218	643	2	2
7	ALCATEL ALSTHOM FRANCE	28,391	1,096	4	2
8	NEC JAPAN	26,675	385	1	1
9	SONY JAPAN	26,581	825	3	3
10	DAEWOO SOUTH KOREA	25,363	N.A.	—	—
11	MITSUBISHI ELECTRIC JAPAN	23,976	565	2	2

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THE GLOBAL 500 BY

INDUSTRY

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
12	**ELECTROLUX** SWEDEN	91	13,331	67	34	1	38	1	38
13	**WESTINGHOUSE ELECTRIC** U.S.	100	12,794	(1,066)	44	(8)	44	(5)	43
14	**THOMSON** FRANCE	103	12,644	(0)	40	(0)	40	(0)	40
15	**SANYO ELECTRIC** JAPAN	107	12,400	125	30	1	34	1	35
16	**ROCKWELL INTERNATIONAL** U.S.	110	12,028	601	11	5	12	6	8
17	**GEC (GENERAL ELECTRIC CO.)** BRITAIN	119	11,453	918	6	8	4	9	4
18	**MOTOROLA** U.S.	121	11,341	454	15	4	16	5	12
19	**SHARP** JAPAN	126	11,067	331	19	3	22	2	27
20	**SCHNEIDER** FRANCE	130	10,463	49	37	0	39	0	39
21	**RAYTHEON** U.S.	148	9,356	592	12	6	7	10	3
22	**NORTHERN TELECOM** CANADA	174	8,183	515	14	6	8	5	11
23	**MATSUSHITA ELECTRIC WKS.** JAPAN	175	8,148	256	22	3	20	3	17
24	**L.M. ERICSSON** SWEDEN	183	7,852	257	21	3	19	3	19
25	**EMERSON ELECTRIC** U.S.	190	7,427	632	10	9	2	10	2
26	**TEXAS INSTRUMENTS** U.S.	214	6,812	(409)	43	(6)	43	(8)	44
27	**WHIRLPOOL** U.S.	216	6,770	170	27	3	27	3	22
28	**COOPER INDUSTRIES** U.S.	235	6,163	393	16	6	6	6	10
29	**FUJI ELECTRIC** JAPAN	243	6,031	155	28	3	25	2	24
30	**LITTON INDUSTRIES** U.S.	272	5,313	64	35	1	33	1	32
31	**GOLDSTAR** SOUTH KOREA	286	4,995	25	38	1	37	1	37
32	**INTEL** U.S.	297	4,779	819	8	17	1	13	1
33	**OKI ELECTRIC INDUSTRY** JAPAN	299	4,732	69	33	1	31	1	33
34	**PIONEER ELECTRONIC** JAPAN	326	4,307	243	23	6	10	7	7
35	**NOKIA** FINLAND	347	3,978	(52)	42	(1)	42	(1)	41
36	**TDK** JAPAN	356	3,895	201	26	5	11	4	14
37	**RACAL ELECTRONICS** BRITAIN	359	3,882	224	25	6	9	6	9
38	**KYOCERA** JAPAN	408	3,395	228	24	7	5	5	13
39	**ALPS ELECTRIC** JAPAN	417	3,307	58	36	2	30	2	29
40	**OMRON** JAPAN	420	3,287	152	29	5	13	4	15
41	**TELEDYNE** U.S.	430	3,218	(25)	41	(1)	41	(1)	42
42	**AMP** U.S.	440	3,095	260	20	8	3	9	5
43	**HARRIS** U.S.	441	3,081	19	39	1	36	1	36
44	**MAYTAG** U.S.	454	2,971	79	32	3	24	3	16
45	**GRUNDIG** GERMANY	470	2,888	120	31	4	15	8	6
	TOTAL		650,032	17,594					
	MEDIAN		8,148	250		3		3	

8 FOOD 47 COMPANIES

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
1	**PHILIP MORRIS** U.S.	14	48,109	3,006	1	6	6	6	15
2	**UNILEVER** BRITAIN/NETHERLANDS	20	41,262	1,843	2	4	14	7	11
3	**NESTLÉ** SWITZERLAND	26	35,584	1,722	3	5	12	6	16
4	**CONAGRA** U.S.	56	19,505	311	14	2	32	3	28
5	**GRAND METROPOLITAN** BRITAIN	78	14,721	328	13	2	27	2	34
6	**FERRUZZI FINANZIARIA** ITALY	82	14,351	93	28	1	38	0	39
7	**SARA LEE** U.S.	105	12,456	535	7	4	16	7	14
8	**BSN** FRANCE	111	12,012	693	4	6	8	5	20
9	**BARLOW RAND** SOUTH AFRICA	118	11,498	139	24	1	34	2	33
10	**ARCHER-DANIELS-MIDLAND** U.S.	165	8,568	467	9	5	9	7	10
11	**HILLSDOWN HOLDINGS** BRITAIN	169	8,299	183	21	2	28	4	22
12	**TAIYO FISHERY** JAPAN	187	7,660	(41)	41	(1)	41	(1)	41
13	**RALSTON PURINA** U.S.	191	7,394	392	11	5	10	8	7
14	**SNOW BRAND MILK PROD.** JAPAN	194	7,337	56	35	1	37	2	35
15	**BORDEN** U.S.	199	7,235	295	15	4	17	5	18
16	**GENERAL MILLS** U.S.	202	7,153	473	8	7	4	12	2
17	**DALGETY** BRITAIN	206	6,999	80	33	1	35	5	21
18	**ASSOCIATED BRITISH FOODS** BRITAIN	218	6,731	198	20	3	21	4	23
19	**H.J. HEINZ** U.S.	219	6,682	568	6	9	2	12	3
20	**CAMPBELL SOUP** U.S.	232	6,230	402	10	6	5	10	5
21	**CPC INTERNATIONAL** U.S.	234	6,200	373	12	6	7	8	8
22	**QUAKER OATS** U.S.	240	6,101	206	19	3	19	7	13
23	**TATE & LYLE** BRITAIN	249	5,884	264	16	4	13	7	12
24	**KELLOGG** U.S.	252	5,787	606	5	10	1	15	1
25	**UNITED BISCUITS** BRITAIN	274	5,279	230	17	4	15	7	9
26	**NIPPON MEAT PACKERS** JAPAN	275	5,251	82	32	2	33	2	30

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THE GLOBAL 500 BY

INDUSTRY

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
27	CHIQUITA BRANDS U.S.	305	4,627	128	25	3	23	4	24
28	UNIGATE BRITAIN	319	4,356	(80)	43	(2)	43	(5)	43
29	AJINOMOTO JAPAN	324	4,312	85	31	2	29	2	37
30	JOHN LABATT CANADA	337	4,139	94	27	2	26	3	27
31	YAMAZAKI BAKING JAPAN	341	4,064	102	26	3	25	4	25
32	TYSON FOODS U.S.	351	3,922	145	22	4	18	5	17
33	NIPPON SUISAN JAPAN	362	3,820	(45)	42	(1)	42	(2)	42
34	FARMLAND INDUSTRIES U.S.	374	3,652	N.A.		—		—	
35	NICHIREI JAPAN	377	3,635	19	39	1	39	1	38
36	AGWAY U.S.	390	3,490	N.A.		—		—	
37	ITOHAM FOODS JAPAN	426	3,231	55	36	2	30	3	29
38	BESNIER FRANCE	427	3,230	53	37	2	31	2	31
39	MEIJI MILK PRODUCTS JAPAN	436	3,135	26	38	1	38	2	36
40	SODIAAL FRANCE	438	3,103	N.A.		—		—	
41	GOODMAN FIELDER WATTIE AUSTRALIA	439	3,095	86	29	3	22	4	26
42	HERSHEY FOODS U.S.	468	2,902	220	18	8	3	9	6
43	SÜDZUCKER GERMANY	474	2,864	78	34	3	24	2	32
44	GEO. A. HORMEL U.S.	479	2,836	86	30	3	20	10	4
45	RANKS HOVIS MCDOUGALL BRITAIN	480	2,832	145	23	5	11	5	19
46	CAMPINA MELKUNIE NETHERLANDS	484	2,813	N.A.		—		—	
47	UNION LAITIÈRE NORMANDE FRANCE	496	2,694	2	40	0	40	0	40
	TOTAL		397,043	14,702					
	MEDIAN		5,787	145		3		4	

9 FOREST PRODUCTS 25 COMPANIES

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
1	INTERNATIONAL PAPER U.S.	102	12,703	184	4	1	8	1	8
2	GEORGIA-PACIFIC U.S.	117	11,524	(142)	21	(1)	17	(1)	20
3	STORA SWEDEN	124	11,257	85	7	1	12	1	11
4	WEYERHAEUSER U.S.	158	8,725	(162)	22	(2)	20	(1)	18
5	TETRA PAK ALFA-LAVAL SWEDEN	182	7,900	N.A.		—		—	
6	NORANDA CANADA	200	7,218	(116)	20	(2)	19	(1)	17
7	FLETCHER CHALLENGE NEW ZEALAND	201	7,187	332	2	5	3	3	3
8	KIMBERLY-CLARK U.S.	212	6,830	508	1	7	1	9	1
9	REPOLA FINLAND	263	5,622	(554)	24	(10)	24	(7)	24
10	STONE CONTAINER U.S.	269	5,393	(49)	16	(1)	16	(1)	16
11	SCOTT PAPER U.S.	283	5,000	(70)	17	(1)	19	(1)	19
12	OJI PAPER JAPAN	295	4,788	119	6	2	5	2	5
13	CHAMPION INTERNATIONAL U.S.	296	4,786	40	11	1	11	0	12
14	MEAD U.S.	306	4,600	7	13	0	13	0	13
15	JAMES R[illegible]VA.) U.S.	310	4,562	78	8	2	6	1	6
16	ARJO WIGGINS APPLETON BRITAIN	317	4,462	257	3	6	7	6	2
17	JUJO PAPER JAPAN	340	4,075	59	9	1	7	1	9
18	BOISE CASCADE U.S.	343	4,044	(79)	19	(2)	21	(2)	21
19	HONSHU PAPER JAPAN	402	3,443	34	12	1	10	1	10
20	KYMMENE FINLAND	412	3,364	(208)	23	(6)	23	(3)	22
21	SANYO-KOKUSAKU PULP JAPAN	422	3,274	44	10	1	9	1	7
22	UNION CAMP U.S.	456	2,967	125	5	4	4	3	4
23	MO DO SWEDEN	460	2,950	1	15	0	15	0	15
24	JEFFERSON SMURFIT U.S.	461	2,942	(77)	18	(3)	22	(3)	23
25	DAISHOWA PAPER MFG. JAPAN	470	2,851	3	14	0	14	0	14
	TOTAL		142,465	420					
	MEDIAN		4,786	21		0		0	

10 FURNITURE 1 COMPANY

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
1	JOHNSON CONTROLS U.S.	309	4,566	95	1	2	1	3	1

11 INDUSTRIAL AND FARM EQUIPMENT 27 COMPANIES

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
1	ABB ASEA BROWN BOVERI SWITZERLAND	33	28,883	587	2	2	8	2	9
2	INI SPAIN	61	18,956	(575)	25	(3)	24	(1)	23
3	MITSUBISHI HEAVY INDUSTRIES JAPAN	63	18,632	684	1	4	5	3	6
4	MANNESMANN GERMANY	79	14,670	237	3	2	12	2	10
5	TENNECO U.S.	85	14,035	(732)	26	(5)	26	(4)	26

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INDUSTRY

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
6	METALLGESELLSCHAFT GERMANY	98	13,014	28	8	0	19	0	19
7	CATERPILLAR U.S.	134	10,182	(404)	24	(4)	23	(3)	23
8	FRIED. KRUPP GERMANY	151	9,130	148	1	2	7	2	8
9	KAWASAKI HEAVY INDUSTRIES JAPAN	195	7,318	108	2	1	10	1	12
10	KOMATSU JAPAN	197	7,280	221	4	3	3	2	7
11	DEERE U.S.	205	7,055	(20)	22	(0)	22	(0)	22
12	ISHIKAWAJIMA-HARIMA JAPAN	207	6,986	138	3	2	9	1	9
13	KUBOTA JAPAN	225	6,468	51	7	1	17	1	16
14	BICC BRITAIN	236	6,159	5	21	0	20	0	21
15	HOESCH GERMANY	241	6,099	78	11	1	15	1	14
16	DRESSER INDUSTRIES U.S.	302	4,702	147	6	3	6	5	3
17	SULZER BROTHERS SWITZERLAND	303	4,668	83	10	2	11	1	13
18	BLACK & DECKER U.S.	304	4,637	53	13	1	16	1	15
19	DEUTSCHE BABCOCK GERMANY	316	4,501	16	19	0	18	1	17
20	INGERSOLL-RAND U.S.	386	3,586	151	5	4	2	5	2
21	CUMMINS ENGINE U.S.	405	3,406	(14)	21	(0)	21	(1)	21
22	SUMITOMO HEAVY IND. JAPAN	415	3,318	42	17	1	14	1	18
23	MCDERMOTT INTERNATIONAL PANAMA	432	3,209	(70)	23	(2)	23	(2)	24
24	DAIKIN INDUSTRIES JAPAN	449	3,024	116	12	4	4	4	4
25	KVAERNER NORWAY	455	2,970	115	14	4	5	3	5
26	BAKER HUGHES U.S.	466	2,912	173	5	6	1	6	1
27	LIEBHERR-INTERNATIONAL SWITZERLAND	467	2,902	N.A.		—		—	
	TOTAL		218,700	1,368					
	MEDIAN		6,159	80		1		1	

12 JEWELRY, WATCHES 2 COMPANIES

1	SEIKO JAPAN	443	3,070	4	2	0	2	0	2
2	CITIZEN WATCH JAPAN	459	2,950	120	1	4	1	4	1
	TOTAL		6,020	124					

13 LEATHER NONE

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
14	**METAL PRODUCTS** 18 COMPANIES								
1	PECHINEY FRANCE	95	13,198	145	8	1	15	1	15
2	SUMITOMO ELECTRIC IND. JAPAN	180	7,991	222	4	3	10	3	10
3	ALCAN ALUMINIUM CANADA	186	7,748	(31)	17	(0)	17	(0)	17
4	HYOSUNG GROUP SOUTH KOREA	246	5,932	87	12	1	13	2	12
5	FURUKAWA ELECTRIC JAPAN	256	5,726	48	15	1	16	1	16
6	TOYO SEIKAN JAPAN	270	5,361	259	3	5	4	6	4
7	GILLETTE U.S.	351	4,706	427	1	9	1	11	1
8	ALUSUISSE-LONZA SWITZERLAND	398	4,575	70	14	2	12	2	13
9	NIPPON LIGHT METAL JAPAN	312	4,543	355	2	8	2	7	2
10	CMB PACKAGING FRANCE	313	4,522	181	6	4	6	4	9
11	SKF SWEDEN	314	4,505	(185)	18	(4)	18	(3)	18
12	CROWN CORK & SEAL U.S.	363	3,807	128	9	3	8	4	7
13	TOYO SASH JAPAN	396	3,475	166	7	5	5	4	8
14	NSK JAPAN	429	3,221	106	11	3	9	2	11
15	JOHNSON MATTHEY BRITAIN	431	3,211	83	13	3	11	7	3
16	MASCO U.S.	434	3,177	45	16	1	14	1	14
17	TYCO LABORATORIES U.S.	437	3,108	117	10	4	7	5	6
18	SANDVIK SWEDEN	446	3,034	209	5	7	3	5	5
	TOTAL		91,840	2,434					
	MEDIAN		4,533	123		3		3	

15 METALS 35 COMPANIES

1	IRI ITALY	7	64,096	(254)	31	(0)	28	—	
2	NIPPON STEEL JAPAN	47	23,142	642	1	3	8	2	13
3	THYSSEN GERMANY	48	22,465	294	6	1	19	2	12
4	USINOR-SACILOR FRANCE	69	17,233	(538)	33	(3)	30	(3)	29
5	PREUSSAG GERMANY	72	15,640	307	4	2	16	4	2
6	AUSTRIAN INDUSTRIES AUSTRIA	80	14,548	23	26	0	26	0	26
7	VIAG GERMANY	84	14,230	54	23	0	25	0	25
8	NKK JAPAN	87	13,851	207	9	1	18	1	22

CONTINUED

THE GLOBAL 500 BY

INDUSTRY

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
9	SUMITOMO METAL IND. JAPAN	97	13,018	381	2	3	7	2	10
10	KOBE STEEL JAPAN	129	10,470	186	3	2	9	1	23
11	ALUMINUM CO. OF AMERICA U.S.	136	9,981	63	21	1	24	1	23
12	KAWASAKI STEEL JAPAN	145	9,548	307	5	3	6	2	11
13	BRITISH STEEL BRITAIN	146	9,501	259	7	3	9	2	6
14	DEGUSSA GERMANY	173	8,202	60	23	1	20	1	19
15	POHANG IRON & STEEL SOUTH KOREA	179	7,991	198	9	2	11	1	8
16	MITSUBISHI MATERIALS JAPAN	215	6,789	320	4	5	3	3	5
17	LTV U.S.	238	6,117	74	20	1	21	1	21
18	ARBED LUXEMBOURG	251	5,804	127	14	2	13	2	14
19	REYNOLDS METALS U.S.	253	5,785	154	11	3	8	2	9
20	COCKERILL SAMBRE BELGIUM	278	5,082	106	17	2	15	2	15
21	HOOGOVENS GROUP NETHERLANDS	321	4,343	(28)	28	(1)	29	(1)	28
22	BETHLEHEM STEEL U.S.	323	4,318	(767)	34	(18)	34	(19)	33
23	KLÖCKNER-WERKE GERMANY	325	4,309	1	25	0	25	0	25
24	EFIM ITALY	330	4,219	N.A.		—		—	
25	SUMITOMO METAL MINING JAPAN	336	4,161	98	18	2	12	2	13
26	SCHERING GERMANY	361	3,837	165	10	4	4	4	3
27	AMAX U.S.	367	3,772	30	35	1	27	1	24
28	STEEL AUTHORITY OF INDIA INDIA	371	3,664	136	15	4	5	2	14
29	MITSUI MINING & SMELTING JAPAN	376	3,651	45	24	1	26	1	25
30	NISSHIN STEEL JAPAN	400	3,454	181	12	5	2	4	4
31	DAIDO STEEL JAPAN	401	3,445	76	19	2	14	2	12
32	INLAND STEEL INDUSTRIES U.S.	407	3,404	(275)	32	(8)	33	(10)	32
33	UNION MINIÈRE BELGIUM	413	3,361	(148)	30	(4)	32	(4)	31
34	OUTOKUMPU FINLAND	433	3,182	(137)	29	(4)	31	(4)	30
35	ISCOR SOUTH AFRICA	476	2,844	228	8	8	1	7	1
	TOTAL		339,456	2,578					
	MEDIAN		5,804	102		2		1	

16 MINING, CRUDE-OIL PRODUCTION 12 COMPANIES

1	RUHRKOHLE GERMANY	75	14,902	40	9	0	9	0	9
2	OCCIDENTAL PETROLEUM U.S.	131	10,305	460	2	4	4	3	4
3	BRITISH COAL BRITAIN	196	7,294	144	5	2	7	1	7
4	RTZ BRITAIN	223	6,472	302	3	5	3	3	5
5	OIL & NATURAL GAS COMM. INDIA	311	4,549	58	8	1	8	1	8
6	DE BEERS CONSOL. MINES SOUTH AFRICA	349	3,927	967	1	25	1	9	1
7	CRA AUSTRALIA	358	3,893	(27)	12	(1)	12	(0)	11
8	TRELLEBORG SWEDEN	366	3,775	(25)	11	(1)	11	(0)	12
9	ZAMBIA IND. & MINING ZAMBIA	397	3,468	100	6	3	5	4	3
10	INCO CANADA	451	2,999	83	7	3	6	2	6
11	COAL INDIA INDIA	478	2,838	(0)	10	(0)	10	(0)	10
12	CODELCO-CHILE CHILE	489	2,774	293	4	11	2	7	2
	TOTAL		67,196	2,396					
	MEDIAN		3,910	91		2		2	

17 MOTOR VEHICLES AND PARTS 45 COMPANIES

1	GENERAL MOTORS U.S.	1	123,780	(4,453)	45	(4)	41	(2)	40
2	FORD MOTOR U.S.	4	88,963	(2,258)	44	(3)	39	(1)	38
3	TOYOTA MOTOR JAPAN	5	78,061	3,143	1	4	3	5	3
4	DAIMLER-BENZ GERMANY	10	57,321	1,129	2	2	15	2	21
5	FIAT ITALY	15	46,812	899	3	2	16	1	29
6	VOLKSWAGEN GERMANY	16	46,042	665	5	1	24	1	27
7	NISSAN MOTOR JAPAN	19	42,906	341	10	1	32	1	34
8	HONDA MOTOR JAPAN	28	30,567	540	7	2	21	3	15
9	RENAULT FRANCE	30	29,432	546	6	2	18	1	28
10	CHRYSLER U.S.	31	29,370	(795)	43	(3)	40	(2)	39
11	PEUGEOT FRANCE	35	28,403	980	3	3	6	4	5
12	ROBERT BOSCH GERMANY	52	20,271	299	11	1	23	2	24
13	MITSUBISHI MOTORS JAPAN	53	20,110	182	16	1	29	1	30
14	MAZDA MOTOR JAPAN	57	19,321	187	15	1	27	2	25
15	BMW GERMANY	64	18,002	461	8	3	10	3	11
16	VOLVO SWEDEN	88	13,382	135	19	1	26	1	35
17	MAN GERMANY	113	11,963	240	12	2	14	2	18

CONTINUED

INDUSTRY

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
18	**ISUZU MOTORS** JAPAN	120	11,415	(460)	41	(4)	42	(5)	42
19	**NIPPONDENSO** JAPAN	123	11,292	448	9	4	4	4	7
20	**KOÇ HOLDING** TURKEY	141	9,708	227	14	2	11	8	1
21	**SUZUKI MOTOR** JAPAN	160	8,682	112	21	1	25	2	22
22	**HYUNDAI MOTOR** SOUTH KOREA	170	8,289	76	28	1	28	1	32
23	**TRW** U.S.	181	7,913	(140)	38	(2)	38	(2)	41
24	**DAIHATSU MOTOR** JAPAN	229	6,244	50	31	1	31	1	31
25	**FUJI HEAVY INDUSTRIES** JAPAN	248	5,912	(615)	42	(10)	45	(11)	45
26	**AISIN SEIKI** JAPAN	267	5,481	87	27	2	22	2	16
27	**SAAB-SCANIA** SWEDEN	276	5,237	231	13	4	2	3	19
28	**YAMAHA MOTOR** JAPAN	288	4,974	91	25	2	20	2	20
29	**HINO MOTORS** JAPAN	298	4,733	88	26	2	19	3	8
30	**DANA** U.S.	307	4,591	13	37	0	37	0	37
31	**LUCAS INDUSTRIES** BRITAIN	320	4,354	92	24	2	12	3	14
32	**TOYODA AUTO. LOOM WORKS** JAPAN	332	4,176	129	20	3	7	5	4
33	**LINDE** GERMANY	334	4,170	147	18	4	5	4	6
34	**KIA MOTORS** SOUTH KOREA	350	3,923	21	33	1	36	0	36
35	**NISSAN SHATAI** JAPAN	368	3,763	21	34	1	35	2	26
36	**EATON** U.S.	372	3,659	74	29	2	13	2	17
37	**VARITY** CANADA	381	3,605	94	23	3	9	3	12
38	**VALEO** FRANCE	389	3,524	97	22	3	8	3	10
39	**NAVISTAR INTL.** U.S.	392	3,487	(165)	39	(5)	43	(5)	43
40	**TOYOTA AUTO BODY** JAPAN	398	3,459	28	32	1	30	3	13
41	**GKN** BRITAIN	403	3,433	65	30	2	17	2	23
42	**ZF FRIEDRICHSHAFEN** GERMANY	414	3,352	165	17	5	1	5	2
43	**KANTO AUTO WORKS** JAPAN	463	2,923	20	36	1	34	2	19
44	**DAF** NETHERLANDS	471	2,871	(211)	40	(7)	44	(6)	44
45	**NISSAN DIESEL MOTOR** JAPAN	477	2,843	21	35	1	33	1	33
	TOTAL		852,721	3,049					
	MEDIAN		7,913	94		1		2	

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
18	**PETROLEUM REFINING** 53 COMPANIES								
1	**ROYAL DUTCH/SHELL GROUP** BRITAIN/NETHERLANDS	2	103,835	4,249	2	4	10	4	17
2	**EXXON** U.S.	3	103,242	5,600	1	5	7	6	7
3	**BRITISH PETROLEUM** BRITAIN	9	58,355	803	13	1	35	1	32
4	**MOBIL** U.S.	11	56,910	1,920	3	3	19	5	14
5	**ENI** ITALY	21	41,047	872	11	2	28	—	
6	**TEXACO** U.S.	23	37,551	1,294	7	3	17	5	11
7	**CHEVRON** U.S.	24	36,795	1,293	8	4	15	4	18
8	**ELF AQUITAINE** FRANCE	25	36,316	1,737	4	5	8	4	19
9	**AMOCO** U.S.	41	25,604	1,484	6	6	6	5	12
10	**TOTAL** FRANCE	44	25,362	1,030	10	4	11	5	13
11	**PDVSA** VENEZUELA	45	24,000	N.A.		—		—	
12	**PEMEX (PETROLEOS MEX.)** MEXICO	59	19,165	652	16	3	18	1	33
13	**NIPPON OIL** JAPAN	65	17,836	172	24	1	39	1	38
14	**ATLANTIC RICHFIELD** U.S.	67	17,683	709	15	4	13	3	26
15	**PETROFINA** BELGIUM	68	17,651	477	17	3	24	4	16
16	**USX** U.S.	70	17,163	(578)	50	(3)	48	(3)	46
17	**REPSOL** SPAIN	71	16,214	760	14	5	9	6	9
18	**IDEMITSU KOSAN** JAPAN	77	14,802	37	44	0	46	0	43
19	**NESTE** FINLAND	89	13,365	91	36	1	42	1	39
20	**PHILLIPS PETROLEUM** U.S.	94	13,216	258	21	2	30	2	28
21	**SUNKYONG** SOUTH KOREA	96	13,067	62	43	0	44	1	41
22	**PETROBRAS** BRAZIL	99	12,956	(619)	51	(5)	50	(3)	47
23	**SSANGYONG GROUP** SOUTH KOREA	101	12,720	110	31	1	40	1	36
24	**BROKEN HILL PROPRIETARY** AUSTRALIA	104	12,474	1,118	9	9	3	6	6
25	**STATOIL** NORWAY	108	12,256	423	18	3	16	3	22
26	**VEBA OEL** GERMANY	125	11,114	160	25	1	33	4	20
27	**COSMO OIL** JAPAN	132	10,287	108	32	1	37	1	34
28	**SUN** U.S.	133	10,246	(387)	48	(4)	49	(5)	48
29	**INDIAN OIL** INDIA	135	10,142	409	19	4	12	6	10
30	**SHOWA SHELL SEKIYU** JAPAN	137	9,968	197	23	2	29	3	25

CONTINUED

THE GLOBAL 500 BY

INDUSTRY

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
31	UNOCAL U.S.	140	9,780	73	39	1	41	1	40
32	COASTAL U.S.	143	9,603	96	35	1	38	1	35
33	ASHLAND OIL U.S.	150	9,322	145	26	2	32	3	27
34	CHINESE PETROLEUM TAIWAN	166	8,558	826	12	10	2	7	5
35	NIPPON MINING JAPAN	178	8,031	36	45	0	45	0	42
36	AMERADA HESS U.S.	226	6,416	84	38	1	36	1	37
37	MITSUBISHI OIL JAPAN	230	6,240	87	37	1	34	1	31
38	PETRONAS MALAYSIA	237	6,155	1,655	1	27	1	15	1
39	TONEN JAPAN	244	6,021	131	27	2	27	2	30
40	YPF (YACIMIENTOS PETROL.) ARGENTINA	284	5,000	300	20	6	5	—	
41	PETRO-CANADA CANADA	322	4,326	(522)	49	(12)	51	(10)	49
42	CEPSA SPAIN	327	4,300	127	29	3	22	3	23
43	NORDICO SWEDEN	346	3,998	(7)	45	(0)	47	(0)	46
44	HONAM OIL SOUTH KOREA	369	3,727	63	42	2	31	2	29
45	PETROGAL PORTUGAL	378	3,628	105	33	3	23	4	15
46	TÜPRAS TURKEY	393	3,485	116	30	3	20	9	3
47	PIONEER INTERNATIONAL AUSTRALIA	395	3,476	128	28	4	14	4	21
48	KERR-MCGEE U.S.	418	3,307	102	34	3	21	3	24
49	ULTRAMAR BRITAIN	428	3,230	N.A.		—		—	
50	HINDUSTAN PETROLEUM INDIA	445	3,049	67	44	2	26	6	8
51	PETROL. AUTH. OF THAILAND THAILAND	447	3,034	240	22	8	4	13	2
52	BHARAT PETROLEUM INDIA	490	2,761	72	40	3	25	8	4
53	PENNZOIL U.S.	500	2,685	21	46	1	43	0	44
	TOTAL		931,475	28,387					
	MEDIAN		10,287	145		2		3	

19 PHARMACEUTICALS 19 COMPANIES

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
1	JOHNSON & JOHNSON U.S.	106	12,447	1,461	4	12	11	14	9
2	BRISTOL-MYERS SQUIBB U.S.	122	11,298	2,056	2	18	5	22	3
3	SANDOZ SWITZERLAND	138	9,825	777	10	8	14	7	14
4	MERCK U.S.	157	8,765	2,122	1	24	1	22	2
5	ROCHE SWITZERLAND	164	8,570	1,033	8	12	10	6	15
6	SMITHKLINE BEECHAM BRITAIN	171	8,285	838	9	10	12	11	11
7	PFIZER U.S.	203	7,144	722	11	10	13	7	13
8	AMERICAN HOME PRODUCTS U.S.	204	7,103	1,375	5	19	4	23	1
9	ABBOTT LABORATORIES U.S.	210	6,922	1,089	7	16	7	17	4
10	GLAXO HOLDINGS BRITAIN	217	6,747	1,559	3	23	2	17	5
11	PROCORDIA SWEDEN	224	6,470	497	14	8	15	8	12
12	ELI LILLY U.S.	257	5,726	1,315	6	23	3	16	7
13	WARNER-LAMBERT U.S.	277	5,167	35	19	1	19	1	19
14	TAKEDA CHEMICAL IND. JAPAN	280	5,041	314	16	6	16	5	17
15	SCHERING-PLOUGH U.S.	380	3,616	646	12	18	6	16	6
16	UPJOHN U.S.	391	3,488	537	13	15	8	13	10
17	SANKYO JAPAN	424	3,270	152	17	5	11	5	16
18	BOEHRINGER INGELHEIM GERMANY	435	3,152	77	18	2	18	2	18
19	WELLCOME BRITAIN	453	2,980	457	15	15	9	15	8
	TOTAL		126,015	17,061					
	MEDIAN		6,747	777		12		13	

20 PUBLISHING, PRINTING 12 COMPANIES

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
1	BERTELSMANN GERMANY	152	9,104	339	2	4	7	8	2
2	NEWS CORP. AUSTRALIA	161	8,662	(308)	11	(4)	11	(2)	11
3	DAI NIPPON PRINTING JAPAN	167	8,382	307	4	4	8	4	7
4	TOPPAN PRINTING JAPAN	189	7,608	242	7	3	9	3	8
5	THOMSON CORP. CANADA	262	5,654	320	3	6	5	4	6
6	HACHETTE FRANCE	268	5,393	(342)	12	(6)	12	(7)	12
7	R.R. DONNELLY U.S.	353	3,915	205	9	5	6	6	4
8	TIMES MIRROR U.S.	379	3,624	82	10	2	10	2	10
9	GANNETT U.S.	409	3,382	302	8	9	2	8	1
10	REED INTERNATIONAL BRITAIN	452	2,990	252	6	8	3	5	5
11	BERKSHIRE HATHAWAY U.S.	465	2,914	440	1	15	1	3	9
12	PEARSON BRITAIN	469	2,900	241	8	8	4	7	3
	TOTAL		64,527	2,079					
	MEDIAN		4,654	247		4		4	

CONTINUED

INDUSTRY

21 RUBBER AND PLASTICS PRODUCTS 9 COMPANIES

	COMPANY / COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	ASSETS %	Rank
1	BRIDGESTONE / JAPAN	93	13,226	54	4	0	6	0	6
2	MICHELIN / FRANCE	112	11,996	(124)	8	(1)	7	(1)	7
3	GOODYEAR TIRE / U.S.	127	11,046	97	3	1	4	1	3
4	PIRELLI / ITALY	177	8,086	(588)	9	(7)	9	(6)	9
5	CONTINENTAL / GERMANY	261	5,657	(78)	7	(1)	8	(2)	8
6	SUMITOMO RUBBER IND. / JAPAN	329	4,220	30	6	1	5	1	5
7	PACIFIC DUNLOP / AUSTRALIA	352	3,919	153	1	4	1	4	2
8	YOKOHAMA RUBBER / JAPAN	416	3,310	38	5	1	3	1	4
9	PREMARK INTL. / U.S.	483	2,816	102	2	4	2	5	1
TOTAL			64,277	(316)					
MEDIAN			5,657	38		1		1	

22 SCIENTIFIC AND PHOTOGRAPHIC EQUIP. 9 COMPANIES

	COMPANY / COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	ASSETS %	Rank
1	EASTMAN KODAK / U.S.	55	19,649	17	8	0	9	0	9
2	XEROX / U.S.	66	17,830	454	3	3	6	1	7
3	MINNESOTA MINING & MFG. / U.S.	90	13,340	1,154	1	9	1	10	2
4	BAXTER INTERNATIONAL / U.S.	156	8,921	591	2	7	2	6	4
5	HONEYWELL / U.S.	233	6,221	331	4	5	4	7	3
6	KONICA / JAPAN	357	3,893	7	9	0	8	0	8
7	CARL-ZEISS-STIFTUNG / GERMANY	481	2,826	39	7	1	7	2	6
8	SIEBE / BRITAIN	491	2,756	165	5	6	3	5	5
9	EG&G / U.S.	499	2,691	81	6	3	5	12	1
TOTAL			78,128	2,839					
MEDIAN			6,221	165		3		5	

23 SOAPS, COSMETICS 10 COMPANIES

	COMPANY / COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	ASSETS %	Rank
1	PROCTER & GAMBLE / U.S.	38	27,406	1,773	1	6	2	9	1
2	HENKEL / GERMANY	185	7,786	240	4	3	6	4	6
3	COLGATE-PALMOLIVE / U.S.	242	6,094	125	8	2	10	3	8
4	L'ORÉAL / FRANCE	247	5,931	382	2	6	3	7	4
5	SCA (SVENSKA CELLULOSA) / SWEDEN	265	5,536	149	5	3	9	2	10
6	KAO / JAPAN	300	4,709	141	6	3	8	3	7
7	SHISEIDO / JAPAN	370	3,720	111	9	3	7	3	9
8	AVON PRODUCTS / U.S.	384	3,593	136	7	4	4	8	3
9	RECKITT & COLMAN / BRITAIN	387	3,567	250	3	7	1	8	2
10	BEIERSDORF / GERMANY	494	2,708	88	10	3	5	5	5
TOTAL			71,049	3,396					
MEDIAN			5,122	145		3		4	

24 TEXTILES 6 COMPANIES

	COMPANY / COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	ASSETS %	Rank
1	TORAY INDUSTRIES / JAPAN	220	6,666	265	2	4	3	3	3
2	HACI ÖMER SABANCI / TURKEY	287	4,978	351	1	7	1	6	1
3	KANEBO / JAPAN	294	4,833	7	6	0	6	0	6
4	TEIJIN / JAPAN	315	4,504	184	3	4	2	3	4
5	COATS VIYELLA / BRITAIN	394	3,484	120	4	3	4	4	2
6	UNITIKA / JAPAN	492	2,744	37	5	1	5	1	5
TOTAL			27,209	964					
MEDIAN			4,668	152		4		3	

25 TOBACCO 6 COMPANIES

	COMPANY / COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	ASSETS %	Rank
1	RJR NABISCO HOLDINGS / U.S.	73	14,989	368	3	2	5	1	6
2	AMERICAN BRANDS / U.S.	168	8,379	806	1	10	2	5	3
3	JAPAN TOBACCO / JAPAN	193	7,338	362	4	5	3	3	4
4	ROTHMANS INTERNATIONAL / BRITAIN	318	4,422	461	2	10	1	9	1
5	TABACALERA / SPAIN	385	3,590	137	5	4	4	5	2
6	UNIVERSAL / U.S.	421	3,274	20	6	1	6	2	5
TOTAL			41,992	2,155					
MEDIAN			5,880	365		4		4	

26 TOYS, SPORTING GOODS 2 COMPANIES

	COMPANY / COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	ASSETS %	Rank
1	YAMAHA / JAPAN	373	3,654	53	2	1	2	2	2

CONTINUED

THE GLOBAL 500 BY

INDUSTRY

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
2	NINTENDO JAPAN	399	3,456	487	1	14	1	16	1
TOTAL			7,110	540					

	COMPANY COUNTRY	Global 500 Rank	SALES $ mil.	PROFITS $ mil.	Rank	PROFITS AS A % OF SALES %	Rank	PROFITS AS A % OF ASSETS %	Rank
27	**TRANSPORTATION EQUIPMENT** 2 COMPANIES								
1	HYUNDAI HEAVY INDUSTRIES SOUTH KOREA	213	6,823	311	1	5	1	4	1
2	SCHINDLER HOLDING SWITZERLAND	487	2,810	61	2	2	2	2	2
TOTAL			9,632	372					

INDUSTRY TOTALS

RANK	INDUSTRY	Number of companies	SALES $ mil.	PROFITS $ mil.	Rank	ASSETS $ mil.	Rank	STOCKHOLDERS' EQUITY $ mil.	Rank	EMPLOYEES Number	Rank
1	PETROLEUM REFINING	53	931,475	28,387	1	860,197	2	353,632	1	1,563,603	6
2	MOTOR VEHICLES AND PARTS	45	852,721	3,049	9	969,582	1	221,333	2	3,945,762	2
3	ELECTRONICS, ELECTRICAL EQUIPMENT	45	650,032	17,594	2	783,556	3	204,645	3	4,019,582	1
4	FOOD	47	397,043	14,702	4	302,720	6	100,950	5	2,157,513	3
5	CHEMICALS	45	396,892	12,510	5	445,028	4	154,747	4	1,840,924	5
6	METALS	35	339,456	2,578	11	314,009	5	79,247	7	1,874,206	4
7	INDUSTRIAL AND FARM EQUIPMENT	27	218,700	1,368	17	251,183	7	57,842	10	1,292,667	7
8	COMPUTERS, OFFICE EQUIPMENT	15	210,482	(2,126)	26	249,270	8	88,474	6	1,225,986	9
9	AEROSPACE	16	169,184	2,361	14	151,365	11	40,830	13	1,167,191	10
10	FOREST PRODUCTS	25	142,465	420	21	179,742	9	50,865	11	711,118	14
11	PHARMACEUTICALS	19	126,015	17,061	3	141,648	12	73,533	8	722,439	12
12	BEVERAGES	18	112,164	8,908	6	160,813	10	59,075	9	784,791	11
13	BUILDING MATERIALS	19	100,038	4,100	7	140,105	13	41,706	12	711,665	13
14	METAL PRODUCTS	18	91,840	2,434	12	93,263	15	32,661	16	497,210	17
15	SCIENTIFIC AND PHOTOGRAPHIC EQUIP.	9	78,128	2,839	10	91,594	16	26,988	17	573,642	15
16	SOAPS, COSMETICS	10	71,049	3,396	8	60,515	20	22,199	19	330,435	19
17	MINING, CRUDE-OIL PRODUCTION	12	67,196	2,395	13	104,632	14	38,886	14	1,273,411	8
18	PUBLISHING, PRINTING	12	64,527	2,079	16	86,082	17	35,709	15	355,566	18
19	RUBBER AND PLASTICS PRODUCTS	9	64,277	(316)	25	65,325	19	13,794	20	537,614	16
20	TOBACCO	6	41,992	2,155	15	68,169	18	23,132	18	180,451	20
21	TEXTILES	6	27,209	964	18	32,104	21	7,749	21	158,982	21
22	TRANSPORTATION EQUIPMENT	2	9,632	372	22	10,281	22	2,572	23	84,131	22
23	APPAREL	2	7,869	518	20	4,760	25	1,496	24	81,300	23
24	TOYS, SPORTING GOODS	2	7,110	540	19	6,457	23	2,930	22	20,867	26
25	JEWELRY, WATCHES	2	6,020	124	23	5,481	24	1,277	25	28,039	25
26	FURNITURE	1	4,566	95	24	2,841	26	1,064	26	42,700	24
ALL INDUSTRIES			5,188,082	128,505		5,580,725		1,737,338		26,181,795	

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THE GLOBAL 500 BY COUNTRY

The U.S. has the most companies on the Global 500 with 157, followed by Japan at 119. Britain is disproportionately represented with 43, surpassing the 33 of the far larger German economy. The British showing comes from a residual empire of subsidiaries around the globe, stretching from onetime colonies in North America to the South Pacific. The Italian economy is *under*represented, with only seven enterprises. A dozen or so that would likely make the list are consolidated into IRI (No. 7), the sprawling, government-owned holding company that produces everything from steel to newspapers to thousands of patronage jobs for politicians. All of Africa has only five corporations that qualify: four in South Africa and the state-owned Zambia Industrial & Mining Co.

The economic recovery of Latin America after a lost decade is highlighted by the appearance of Vitro, a glassmaker that is Mexico's first non-government company to make the Global 500, and YPF, the Argentine national oil company being prepared for privatization. In booming Asia, South Korea added two more companies to its total (now 13), while the Petroleum Authority of Thailand marks that fast-growing country's first entry into the ranks.

COMPANY GLOBAL 500 RANK	COUNTRY SALES RANK	HEADQUARTERS	Phone*
ARGENTINA 1 COMPANY			
YPF (YACIMIENTOS PETRÓLEOS) 284	1	Buenos Aires	54-1-326-7266
AUSTRALIA 9 COMPANIES			
BORAL 448	9	Sydney	61-2-232-8800
BROKEN HILL PROPRIETARY 104	1	Melbourne	61-3-609-3333
CRA 358	5	Melbourne	61-3-653-3333
CSR 376	6	Sydney	61-2-235-8333
FOSTER'S BREWING 266	3	Melbourne	61-3-828-2424
GOODMAN FIELDER WATTIE 439	8	Sydney	61-2-290-2088
NEWS CORP. 161	2	Sydney	61-2-288-3000
PACIFIC DUNLOP 352	4	Melbourne	61-3-270-7270
PIONEER INTERNATIONAL 395	7	Sydney	61-2-519-2233
AUSTRIA 1 COMPANY			
AUSTRIAN INDUSTRIES 80	1	Vienna	43-1-711-14-0
BELGIUM 4 COMPANIES			
COCKERILL SAMBRE 278	3	Brussels	32-2-674-0211
PETROFINA 68	1	Brussels	32-2-288-9111
SOLVAY 188	2	Brussels	32-2-509-6111
UNION MINIERE 413	4	Brussels	32-2-778-8111
BRAZIL 1 COMPANY			
PETROBRÁS 99	1	Rio de Janeiro	55-21-534-4477
BRITAIN 43 COMPANIES			
ALLIED-LYONS 176	11	London	44-71-323-9000
ARJO WIGGINS APPLETON 317	26	Basingstoke	44-256-842020
ASSOCIATED BRITISH FOODS 218	15	London	44-71-589-6363
BICC 236	18	London	44-71-629-6622
BOC GROUP 289	24	Windlesham	44-276-77222
BRITISH AEROSPACE 60	3	London	44-71-930-1020
BRITISH COAL 196	12	London	44-71-235-2020
BRITISH PETROLEUM 9	1	London	44-71-920-8000
BRITISH STEEL 146	8	London	44-71-735-7654
BTR 109	5	London	44-71-834-3848
BURMAH CASTROL 333	30	Swindon	44-793-511521
CADBURY SCHWEPPES 254	20	London	44-71-262-1212
COATS VIYELLA 394	34	London	44-71-734-4030
COURTAULDS 382	32	London	44-71-612-1000
DALGETY 206	13	London	44-71-486-0200

*Phone numbers include country and area codes.

COMPANY GLOBAL 500 RANK	COUNTRY SALES RANK	HEADQUARTERS	Phone*
GEC (GENERAL ELECTRIC CO.) 119	7	London	44-71-493-8484
GKN 403	35	Redditch	44-527-517715
GLAXO HOLDINGS 217	14	London	44-71-493-4060
GRAND METROPOLITAN 78	4	London	44-71-321-6000
GUINNESS 271	21	London	44-71-486-0288
HANSON 114	6	London	44-71-245-1245
HILLSDOWN HOLDINGS 169	9	London	44-71-794-0677
IMPERIAL CHEMICAL IND. 49	2	London	44-71-834-4444
JOHNSON MATTHEY 431	38	London	44-71-269-8400
LUCAS INDUSTRIES 320	29	Birmingham	44-21-627-6000
PEARSON 469	41	London	44-71-828-9020
PILKINGTON 282	23	St. Helens	44-744-28882
RACAL ELECTRONICS 359	31	Bracknell	44-344-483244
RANKS HOVIS MCDOUGALL 481	42	Windsor	44-753-857123
RECKITT & COLMAN 387	33	London	44-81-994-6464
REED INTERNATIONAL 452	39	London	44-71-499-4020
RMC GROUP 290	25	Egham	44-932-568833
ROLLS-ROYCE 228	17	London	44-71-222-9020
ROTHMANS INTERNATIONAL 318	27	London	44-71-491-4366
RTZ 223	16	London	44-71-930-2399
SIEBE 492	43	Windsor	44-753-855411
SMITHKLINE BEECHAM 171	10	Brentford	44-81-975-2000
TATE & LYLE 249	19	London	44-71-626-6525
ULTRAMAR 428	37	London	44-71-726-4545
UNIGATE 319	28	London	44-81-749-8888
UNITED BISCUITS 274	22	West Drayton	44-895-432100
WELLCOME 453	40	London	44-71-387-4477
WHITBREAD 411	36	London	44-71-606-4455

BRITAIN/NETHERLANDS 2 COMPANIES

ROYAL DUTCH/SHELL GROUP 2	1	London/The Hague	44-71-934-3856
UNILEVER 20	2	London/Rotterdam	44-71-822-5252

CANADA 9 COMPANIES

ALCAN ALUMINIUM 186	2	Montreal	1-514-848-8000
INCO 451	9	Toronto	1-416-361-7511
LABATT (JOHN) 337	7	Toronto	1-416-865-6000
NORANDA 200	3	Toronto	1-416-982-7111
NORTHERN TELECOM 174	1	Mississauga, Ont.	1-416-897-9000
PETRO-CANADA 322	6	Calgary	1-403-296-8000
SEAGRAM 273	5	Montreal	1-514-849-5271
THOMSON CORP. 262	4	Toronto	1-416-360-8700
VARITY 381	8	Buffalo, N.Y.	1-716-888-8000

CHILE 1 COMPANY

CODELCO-CHILE 490	1	Santiago	56-2-690-3000

FINLAND 6 COMPANIES

KEMIRA 494	6	Helsinki	358-0-132-11
KYMMENE 412	4	Helsinki	358-0-131-411
NESTE 89	1	Espoo	358-0-4501
NOKIA 347	3	Helsinki	358-0-18071
OUTOKUMPU 433	5	Helsinki	358-0-4211
REPOLA 263	2	Helsinki	358-0-18281

*Phone numbers include country and area codes.

COMPANY GLOBAL 500 RANK	COUNTRY SALES RANK	HEADQUARTERS	Phone*

FRANCE 32 COMPANIES

AEROSPATIALE 162	14	Paris	33-1-4224-2424
ALCATEL ALSTHOM 36	4	Paris	33-1-4076-1010
BESNIER 427	26	Laval	33-1-4356-0721
BSN 111	11	Paris	33-1-4435-2020
BULL 245	16	Paris	33-1-4502-9090
CEA-INDUSTRIE 211	15	Paris	33-1-4056-1000
CIMENTS FRANÇAIS 464	28	Courbevoie	33-1-4291-7000
CMB PACKAGING 313	21	Paris	33-1-4415-6800
DASSAULT AVIATION 483	29	Paris	33-1-4795-8585
ELF AQUITAINE 25	1	Courbevoie	33-1-4744-4546
ENTREPRISE MINIERE & CHIMIQUE 486	30	Paris	33-1-4584-1280
HACHETTE 268	20	Paris	33-1-4069-1600
LAFARGE COPPEE 264	19	Paris	33-1-4434-1111
L'AIR LIQUIDE 259	18	Paris	33-1-4062-5555
L'OREAL 247	17	Clichy	33-1-4756-7000
LVMH 355	24	Paris	33-1-4413-2222
MATRA 345	23	Paris	33-1-4766-0306
MICHELIN 112	12	Clermont-Ferrand	33-1-7330-4221
PECHINEY 95	9	Courbevoie	33-1-4691-4691
PERNOD RICARD 496	31	Paris	33-1-4076-7778
PEUGEOT 35	3	Paris	33-1-4066-5511
RENAULT 30	2	Paris	33-1-4609-1530
RHÔNE-POULENC 76	7	Courbevoie	33-1-4768-1234
SAINT-GOBAIN 92	8	Courbevoie	33-1-4762-3000
SCHNEIDER 130	13	Paris	33-1-4505-7800
SNECMA 328	22	Paris	33-1-4060-8080
SODIAAL 438	27	Paris	33-1-4335-3720
THOMSON 103	10	Puteaux	33-1-4907-8000
TOTAL 44	5	Puteaux	33-1-4291-4000
UNION LAITIERE NORMANDE 497	32	Neuilly-sur-Seine	33-1-4643-6000
USINOR-SACILOR 69	6	Paris	33-1-4900-6010
VALEO 389	25	Paris	33-1-4055-2020

GERMANY 33 COMPANIES

BASF 37	5	Ludwigshafen	49-621-600
BAYER 42	6	Leverkusen	49-214-301
BEIERSDORF 495	33	Hamburg	49-40-5690
BERTELSMANN 152	18	Gütersloh	49-5241-800
BMW 64	9	Munich	49-89-38950
BOEHRINGER INGELHEIM 435	29	Ingelheim	49-6132-770
BOSCH (ROBERT) 52	8	Stuttgart	49-711-8110
CARL-ZEISS-STIFTUNG 482	32	Oberkochen	49-7364-200
CONTINENTAL 261	23	Hanover	49-51-17651
DAIMLER-BENZ 10	1	Stuttgart	49-711-170
DEGUSSA 173	19	Frankfurt-am-Main	49-69-21801
DEUTSCHE BABCOCK 316	24	Oberhausen	49-208-8330
GRUNDIG 470	30	Fürth	49-911-7030
HENKEL 185	20	Düsseldorf	49-211-7970
HOECHST 34	4	Frankfurt-am-Main	49-69-3050
HOESCH 241	22	Dortmund	49-231-8410
HÜLS 231	21	Marl	49-2365-491
KLÖCKNER-WERKE 325	25	Duisburg	49-203-181
KRUPP (FRIED.) 151	17	Essen	49-201-1881
LINDE 334	26	Wiesbaden	49-6134-60700
MAN 113	15	Munich	49-89-36098

CONTINUED

THE GLOBAL 500 BY

COUNTRY

COMPANY GLOBAL 500 RANK	COUNTRY SALES RANK	HEADQUARTERS	Phone*
MANNESMANN 79	12	Düsseldorf	49-211-8200
METALLGESELLSCHAFT 98	14	Frankfurt-am-Main	49-69-1590
PREUSSAG 72	10	Hanover	49-511-566-1451
RUHRKOHLE 75	11	Essen	49-201-1771
SCHERING 361	27	Berlin	49-30-4680
SIEMENS 17	3	Munich	49-89-2340
SÜDZUCKER 474	31	Mannheim	49-621-4210
THYSSEN 48	7	Düsseldorf	49-211-8240
VEBA OEL 125	16	Gelsenkirchen	49-209-17060
VIAG 84	13	Bonn	49-228-55201
VOLKSWAGEN 16	2	Wolfsburg	49-5361-90
ZF FRIEDRICHSHAFEN 414	28	Friedrichshafen	49-7541-770
INDIA 6 COMPANIES			
BHARAT PETROLEUM 491	6	Bombay	91-22-261-8281
COAL INDIA 479	5	Calcutta	91-33-206063
HINDUSTAN PETROLEUM 445	4	Bombay	91-22-206151
INDIAN OIL 135	1	New Delhi	91-11-436-0684
OIL & NATURAL GAS COMMISSION 311	2	Dehra Dun	91-135-27121
STEEL AUTHORITY OF INDIA 371	3	New Delhi	91-11-690-481
ITALY 7 COMPANIES			
EFIM 330	7	Rome	39-6-47101
ENI 21	3	Rome	39-6-59001
FERRUZZI FINANZIARIA 82	4	Ravenna	39-544-35692
FIAT 15	2	Turin	39-11-65651
IRI 7	1	Rome	39-6-47271
OLIVETTI 209	6	Ivrea	39-125-522669
PIRELLI 177	5	Milan	39-2-85351
JAPAN 119 COMPANIES			
AISIN SEIKI 267	59	Kariya	81-566-24-8231
AJINOMOTO 324	74	Tokyo	81-3-5250-8111
ALPS ELECTRIC 417	104	Tokyo	81-3-3726-1211
ASAHI BREWERIES 285	63	Tokyo	81-3-5608-5112
ASAHI CHEMICAL INDUSTRY 149	30	Tokyo	81-3-3507-2730
ASAHI GLASS 147	29	Tokyo	81-3-3218-5555
BRIDGESTONE 93	19	Tokyo	81-3-3567-0111
CANON 83	17	Tokyo	81-3-3348-2121
CITIZEN WATCH 459	113	Tokyo	81-3-3342-1231
COSMO OIL 132	26	Tokyo	81-3-3798-3211
DAIDO STEEL 401	97	Nagoya	81-52-201-5111
DAIHATSU MOTOR 229	52	Osaka	81-727-51-8811
DAIKIN INDUSTRIES 449	112	Osaka	81-6-373-1201
DAINIPPON INK & CHEMICALS 221	49	Tokyo	81-3-3272-4511
DAI NIPPON PRINTING 167	34	Tokyo	81-3-3266-2111
DAISHOWA PAPER MFG. 475	116	Fuji	81-545-30-3000
FUJI ELECTRIC 243	54	Tokyo	81-3-3211-7111
FUJI HEAVY INDUSTRIES 248	56	Tokyo	81-3-3347-2111
FUJI PHOTO FILM 163	33	Tokyo	81-3-3406-2111
FUJITSU 51	11	Tokyo	81-3-3216-3211
FURUKAWA ELECTRIC 256	58	Tokyo	81-3-3286-3001
HINO MOTORS 298	69	Tokyo	81-425-86-5011
HITACHI 12	2	Tokyo	81-3-3258-1111
HONDA MOTOR 28	6	Tokyo	81-3-3423-1111
HONSHU PAPER 402	98	Tokyo	81-3-3543-1861
IDEMITSU KOSAN 77	16	Tokyo	81-3-3213-3111
ISHIKAWAJIMA-HARIMA HVY. IND. 207	46	Tokyo	81-3-3244-5111
ISUZU MOTORS 120	22	Tokyo	81-3-5471-1111
ITOHAM FOODS 426	108	Nishinomiya	81-798-66-1231
JAPAN TOBACCO 193	41	Tokyo	81-3-3474-3111
JUJO PAPER 340	80	Tokyo	81-3-3211-7311
KANEBO 294	67	Osaka	81-6-922-8151
KANTO AUTO WORKS 463	114	Yokosuka	81-468-61-5111
KAO 300	71	Tokyo	81-3-3660-7111
KAWASAKI HEAVY INDUSTRIES 195	43	Kobe	81-78-371-9551
KAWASAKI STEEL 145	28	Kobe	81-78-232-5111
KIRIN BREWERY 222	50	Tokyo	81-3-5485-6220
KOBE STEEL 129	25	Kobe	81-78-261-5111
KOMATSU 197	44	Tokyo	81-3-3584-7111
KONICA 357	84	Tokyo	81-3-3349-5241
KUBOTA 225	51	Osaka	81-6-648-2111
KYOCERA 408	100	Kyoto	81-75-592-3851
MATSUSHITA ELECTRIC IND. 12	3	Osaka	81-6-908-1121
MATSUSHITA ELECTRIC WORKS 175	36	Osaka	81-6-908-1131
MAZDA MOTOR 57	13	Hiroshima	81-82-282-1111
MEIJI MILK PRODUCTS 436	110	Tokyo	81-3-3281-6118
MITSUBISHI ELECTRIC 46	9	Tokyo	81-3-3218-2111
MITSUBISHI HEAVY INDUSTRIES 63	14	Tokyo	81-3-3212-3111
MITSUBISHI KASEI 153	31	Tokyo	81-3-3283-6254
MITSUBISHI MATERIALS 215	47	Tokyo	81-3-5252-5200
MITSUBISHI MOTORS 53	12	Tokyo	81-3-5232-7165
MITSUBISHI OIL 230	53	Tokyo	81-3-3595-7663
MITSUBISHI PETROCHEMICAL IND. 338	79	Tokyo	81-3-3283-5700
MITSUI MINING & SMELTING 375	91	Tokyo	81-3-3246-8000
MITSUI PETROCHEMICAL IND. 498	119	Tokyo	81-3-3580-3616
MITSUI TOATSU CHEMICALS 364	86	Tokyo	81-3-3592-41..
NEC 39	7	Tokyo	81-3-3454-1111
NICHIREI 377	92	Tokyo	81-3-3248-2112
NINTENDO 399	95	Kyoto	81-75-541-6111
NIPPONDENSO 123	23	Kariya	81-566-25-5511
NIPPON LIGHT METAL 312	72	Tokyo	81-3-3456-9211
NIPPON MEAT PACKERS 275	61	Osaka	81-6-282-3031
NIPPON MINING 178	37	Tokyo	81-3-3505-8111
NIPPON OIL 65	15	Tokyo	81-3-3502-1111
NIPPON STEEL 47	10	Tokyo	81-3-3242-4111
NIPPON SUISAN KAISHA 362	85	Tokyo	81-3-3244-7000
NISSAN DIESEL MOTOR 478	117	Ageo	81-48-781-2301
NISSAN MOTOR 19	4	Tokyo	81-3-3543-5523
NISSAN SHATAI 368	88	Hiratsuka	81-463-21-8001
NISSHIN STEEL 400	96	Tokyo	81-3-3216-5511
NKK 87	18	Tokyo	81-3-3212-7111
NSK 429	109	Tokyo	81-3-3779-7111
OJI PAPER 295	68	Tokyo	81-3-3347-1111
OKI ELECTRIC INDUSTRY 299	70	Tokyo	81-3-3501-3111
OMRON 420	105	Kyoto	81-75-344-7000
ONODA CEMENT 406	99	Tokyo	81-3-5683-2111
PIONEER ELECTRONIC 326	75	Tokyo	81-3-3494-1111
RICOH 198	45	Tokyo	81-3-3479-3111
SANKYO 424	107	Tokyo	81-3-3562-0411
SANYO ELECTRIC 107	21	Osaka	81-6-991-1181
SANYO-KOKUSAKU PULP 422	106	Tokyo	81-3-3211-3411
SEIKO 443	111	Tokyo	81-3-3563-2111

*Phone numbers include country and area codes.

CONTINUED

THE GLOBAL 500 BY

COUNTRY

COMPANY GLOBAL 500 RANK	COUNTRY SALES RANK	HEADQUARTERS	Phone*
SEKISUI CHEMICAL 250	57	Osaka	81-6-365-4122
SHARP 126	24	Osaka	81-6-621-1221
SHIN-ETSU CHEMICAL 410	101	Tokyo	81-3-3246-5011
SHISEIDO 370	89	Tokyo	81-3-3572-5111
SHOWA DENKO 293	66	Tokyo	81-3-5470-3335
SHOWA SHELL SEKIYU 137	27	Tokyo	81-3-3580-4120
SNOW BRAND MILK PRODUCTS 194	42	Tokyo	81-3-3226-2111
SONY 40	8	Tokyo	81-3-3448-2111
SUMITOMO CHEMICAL 172	35	Osaka	81-6-220-3287
SUMITOMO ELECTRIC IND. 180	38	Osaka	81-6-220-4141
SUMITOMO HEAVY IND. 415	102	Tokyo	81-3-3245-4321
SUMITOMO METAL IND. 97	20	Osaka	81-6-220-5115
SUMITOMO METAL MINING 336	78	Tokyo	81-3-3436-7704
SUMITOMO RUBBER IND. 329	76	Kobe	81-78-231-4141
SUNTORY 366	87	Osaka	81-6-440-1131
SUZUKI MOTOR 160	32	Hamamatsu	81-53-440-2111
TAIYO FISHERY 187	39	Tokyo	81-3-3216-1710
TAKEDA CHEMICAL IND. 280	62	Osaka	81-6-204-2111
TDK 356	83	Tokyo	81-3-3278-5111
TEIJIN 315	73	Osaka	81-6-268-2132
TONEN 244	55	Tokyo	81-3-3286-5119
TOPPAN PRINTING 189	40	Tokyo	81-3-3835-5111
TORAY INDUSTRIES 220	48	Tokyo	81-3-3245-5111
TOSHIBA 27	5	Tokyo	81-3-3457-4511
TOTO 472	115	Kitakyushu	81-93-951-2311
TOYOBO 354	82	Osaka	81-6-348-3111
TOYODA AUTO. LOOM WORKS 332	77	Kariya	81-566-22-2511
TOYO SASH 396	93	Tokyo	81-3-3638-8111
TOYO SEIKAN KAISHA 270	60	Tokyo	81-3-3508-2113
TOYOTA AUTO BODY 398	94	Kariya	81-566-36-2121
TOYOTA MOTOR 5	1	Toyota City	81-565-28-2121
UBE INDUSTRIES 292	65	Ube	81-836-31-1122
UNITIKA 493	118	Osaka	81-6-281-5699
YAMAHA 373	90	Hamamatsu	81-53-460-2141
YAMAHA MOTOR 288	64	Iwata	81-538-32-1111
YAMAZAKI BAKING 341	81	Tokyo	81-3-3864-3111
YOKOHAMA RUBBER 416	103	Tokyo	81-3-3432-7111

LUXEMBOURG 1 COMPANY

ARBED 251	1	Luxembourg	352-47-921

MALAYSIA 1 COMPANY

PETRONAS 237	1	Kuala Lumpur	60-3-274-3833

MEXICO 2 COMPANIES

PEMEX 59	1	Mexico City	52-5-31-6061
VITRO 442	2	Monterrey	

NETHERLANDS 7 COMPANIES

AKZO 154	2	Arnhem	31-85-510463
CAMPINA MELKUNIE 485	7	Hertogenbosch	31-73-123351
DAF 471	6	Eindhoven	31-40-149111
DSM 279	3	Heerlen	31-45-788111
HEINEKEN 339	5	Amsterdam	31-20-5239239

COMPANY GLOBAL 500 RANK	COUNTRY SALES RANK	HEADQUARTERS	Phone*
HOOGOVENS GROUP 321	4	Beverwijk	31-2514-99111
PHILIPS ELECTRONICS 29	1	Eindhoven	31-40-757319

NEW ZEALAND 1 COMPANY

FLETCHER CHALLENGE 201	1	Auckland	64-9-525-9000

NORWAY 3 COMPANIES

KVAERNER 455	3	Oslo	47-2-967000
NORSK HYDRO 142	2	Oslo	47-2-432100
STATOIL 108	1	Stavanger	47-4-808080

PANAMA 1 COMPANY

MCDERMOTT INTERNATIONAL 432	1	New Orleans, La.	1-504-587-5400

PORTUGAL 1 COMPANY

PETROGAL 378	1	Lisbon	351-1-346-1281

SOUTH AFRICA 4 COMPANIES

BARLOW RAND 118	1	Sandton	27-11-801-9111
DE BEERS CONSOL. MINES 349	2	Kimberley	27-11-531-22171
ISCOR 477	4	Pretoria	27-12-2981111
SASOL 450	3	Johannesburg	27-11-4113111

SOUTH KOREA 13 COMPANIES

DAEWOO 43	2	Seoul	82-2-759-2114
DOOSAN GROUP 368	12	Seoul	82-2-759-6961
GOLDSTAR 286	9	Seoul	82-2-787-3228
HONAM OIL REFINERY 369	11	Seoul	82-2-785-5103
HYOSUNG GROUP 246	8	Seoul	82-2-771-1100
HYUNDAI HEAVY INDUSTRIES 213	7	Ulsan	82-522-30-2114
HYUNDAI MOTOR 170	5	Seoul	82-2-746-1114
KIAMOTORS 350	10	Seoul	82-2-788-1422
LUCKY 444	13	Seoul	82-2-787-1114
POHANG IRON & STEEL 179	6	Pohang City	82-562-220-0114
SAMSUNG GROUP 18	1	Seoul	82-2-751-2114
SSANGYONG GROUP 101	4	Seoul	82-2-270-8114
SUNKYONG 96	3	Seoul	82-2-758-2114

SPAIN 4 COMPANIES

CEPSA 327	3	Madrid	34-1-337-6000
INI 61	1	Madrid	34-1-575-6509
REPSOL 71	2	Madrid	34-1-348-8100
TABACALERA 385	4	Madrid	34-1-532-7600

SWEDEN 14 COMPANIES

ELECTROLUX 91	2	Stockholm	46-8-738-60-60
ERICSSON (L.M.) 183	5	Stockholm	46-8-719-00-00
MO DO 460	14	Örnsköldsvik	46-660-750-00
NOBEL INDUSTRIES 331	10	Stockholm	46-8-613-25-00
NORDICO 346	11	Stockholm	46-8-787-71-00

*Phone numbers include country and area codes

CONTINUED

THE GLOBAL 500 BY

COUNTRY

COMPANY GLOBAL 500 RANK	COUNTRY SALES RANK	HEADQUARTERS	Phone*
PROCORDIA 224	6	Stockholm	46-8-624-50-00
SAAB-SCANIA 276	8	Linköping	46-13-18-00-00
SANDVIK 446	13	Sandviken	46-26-26-10-41
SCA (SVENSKA CELLULOSA) 265	7	Sundsvall	46-60-19-30-00
SKF 314	9	Göteborg	46-31-37-10-00
STORA 124	3	Falun	46-23-800-00
TETRA PAK ALFA-LAVAL 182	4	Lund	46-46-36-46-00
TRELLEBORG 365	12	Trelleborg	46-410-51-000
VOLVO 88	1	Göteborg	46-31-59-00-00
SWITZERLAND 10 COMPANIES			
ABB ASEA BROWN BOVERI 33	2	Zurich	41-1-317-7111
ALUSUISSE-LONZA 308	7	Zurich	41-1-386-2222
CIBA-GEIGY 74	3	Basel	41-61-696-1111
HOLDERBANK 335	8	Jona	41-55-26-13-42
LIEBHERR-INTERNATIONAL 467	9	Bulle	41-29-331-11
NESTLÉ 26	1	Vevey	41-21-924-2111
ROCHE 164	5	Basel	41-61-688-0444
SANDOZ 138	4	Basel	41-61-324-1111
SCHINDLER HOLDING 487	10	Hergiswil	41-41-95-19-61
SULZER BROTHERS 303	6	Zurich	41-52-262-1122
TAIWAN 1 COMPANY			
CHINESE PETROLEUM 166	1	Taipei	886-2-361-0221
THAILAND 1 COMPANY			
PETROL. AUTH. OF THAILAND 447	1	Bangkok	66-2-537-2000
TURKEY 3 COMPANY			
KOÇ HOLDING 141	1	Istanbul	90-1-341-4650
SABANCI (HACI ÖMER) 287	2	Istanbul	90-1-252-3800
TÜPRAŞ 393	3	Kocaeli	90-21-13-39-00
U.S. 157 COMPANIES			
ABBOTT LABORATORIES 210	70	Abbott Park, Ill.	1-708-937-6100
AGWAY 390	124	DeWitt, N.Y.	1-315-449-7061
AIR PRODUCTS & CHEMICALS 458	144	Allentown, Pa.	1-215-481-4911
ALLIED-SIGNAL 115	35	Morristown, N.J.	1-201-455-2000
ALUMINUM CO. OF AMERICA 136	45	Pittsburgh	1-412-553-4545
AMAX 367	116	New York	1-212-856-4200
AMERADA HESS 226	75	New York	1-212-997-8500
AMERICAN BRANDS 168	58	Old Greenwich, Ct.	1-203-698-5000
AMERICAN CYANAMID 281	94	Wayne, N.J.	1-201-831-2000
AMERICAN HOME PRODUCTS 204	67	New York	1-212-878-5000
AMERICAN STANDARD 383	121	New York	1-212-703-5100
AMOCO 41	14	Chicago	1-312-856-6111
AMP 440	139	Harrisburg, Pa.	1-717-564-0100
ANHEUSER-BUSCH 128	41	St. Louis	1-314-577-2000
APPLE COMPUTER 227	76	Cupertino, Calif.	1-408-996-1010
ARCHER-DANIELS-MIDLAND 165	57	Decatur, Ill.	1-217-424-5200
ASHLAND OIL 150	51	Russell, Ky.	1-606-329-3333
ATLANTIC RICHFIELD 67	22	Los Angeles	1-213-486-3511
AVON PRODUCTS 384	122	New York	1-212-546-6015
BAKER HUGHES 466	148	Houston	1-713-439-8600
BAXTER INTERNATIONAL 156	53	Deerfield, Ill.	1-708-948-2000
BERKSHIRE HATHAWAY 465	147	Omaha	1-402-346-1400
BETHLEHEM STEEL 323	107	Bethlehem, Pa.	1-215-694-2424
BLACK & DECKER 304	101	Towson, Md.	1-301-583-3900
BOEING 32	12	Seattle	1-206-655-2121
BOISE CASCADE 343	109	Boise, Idaho	1-208-384-6161
BORDEN 199	64	New York	1-212-573-4000
BRISTOL-MYERS SQUIBB 122	39	New York	1-212-546-4000
CAMPBELL SOUP 232	77	Camden, N.J.	1-609-342-4800
CATERPILLAR 134	44	Peoria, Ill.	1-309-675-1000
CHAMPION INTERNATIONAL 296	97	Stamford, Conn.	1-203-358-7000
CHEVRON 24	10	San Francisco	1-415-894-7700
CHIQUITA BRANDS INTL. 305	102	Cincinnati	1-513-784-8000
CHRYSLER 31	11	Highland Park, Mich.	1-313-956-5741
COASTAL 143	48	Houston	1-713-877-1400
COCA-COLA 116	36	Atlanta	1-404-676-2121
COCA-COLA ENTERPRISES 342	108	Atlanta	1-404-676-2100
COLGATE-PALMOLIVE 242	84	New York	1-212-310-2000
COMPAQ COMPUTER 423	134	Houston	1-713-370-0670
CONAGRA 56	18	Omaha	1-402-595-4000
COOPER INDUSTRIES 235	80	Houston	1-713-739-5400
CORNING 419	132	Corning, N.Y.	1-607-974-9000
CPC INTERNATIONAL 234	79	Englewood Cliffs, N.J.	1-201-894-4000
CROWN CORK & SEAL 363	115	Philadelphia	1-215-698-5100
CUMMINS ENGINE 405	128	Columbus, Ind.	1-812-377-5000
DANA 307	104	Toledo	1-419-535-4500
DEERE 205	68	Moline, Ill.	1-309-765-8000
DIGITAL EQUIPMENT 86	27	Maynard, Mass.	1-508-493-5111
DONNELLEY (R.R.) & SONS 353	113	Chicago	1-312-326-8000
DOW CHEMICAL 58	19	Midland, Mich.	1-517-636-1000
DRESSER INDUSTRIES 302	100	Dallas	1-214-740-6000
DU PONT (E.I.) DE NEMOURS 22	8	Wilmington, Del.	1-302-774-1000
EASTMAN KODAK 55	17	Rochester, N.Y.	1-716-724-4000
EATON 372	117	Cleveland	1-216-523-5000
EG&G 500	156	Wellesley, Mass.	1-617-237-5100
EMERSON ELECTRIC 190	61	St. Louis	1-314-553-2000
EXXON 3	2	Irving, Texas	1-214-444-1000
FARMLAND INDUSTRIES 374	118	Kansas City, Mo.	1-816-459-6000
FMC 348	111	Chicago	1-312-861-6000
FORD MOTOR 4	3	Dearborn, Mich.	1-313-322-3000
GANNETT 409	130	Arlington, Va.	1-703-284-6000
GENERAL DYNAMICS 144	49	Falls Church, Va.	1-703-876-3000
GENERAL ELECTRIC 8	5	Fairfield, Conn.	1-203-373-2211
GENERAL MILLS 202	65	Minneapolis	1-612-540-2311
GENERAL MOTORS 1	1	Detroit	1-313-556-5000
GEORGIA-PACIFIC 117	37	Atlanta	1-404-521-4000
GILLETTE 301	99	Boston	1-617-421-7000
GOODYEAR TIRE & RUBBER 127	40	Akron	1-216-796-2121
GRACE (W.R.) 208	69	Boca Raton, Fla.	1-407-362-2000
GRUMMAN 344	110	Bethpage, N.Y.	1-516-575-0574
HARRIS 441	140	Melbourne, Fla.	1-407-727-9100
HEINZ (H.J.) 219	74	Pittsburgh	1-412-456-5700
HERCULES 462	146	Wilmington, Del.	1-302-594-5000
HERSHEY FOODS 468	149	Hershey, Pa.	1-717-534-6799
HEWLETT-PACKARD 81	25	Palo Alto, Calif.	1-415-857-1501
HONEYWELL 233	78	Minneapolis	1-612-870-5200
HORMEL (GEO. A.) 480	151	Austin, Minn.	1-507-437-5611

*Phone numbers include country and area codes

CONTINUED

THE GLOBAL 500 BY

COUNTRY

COMPANY GLOBAL 500 RANK	COUNTRY SALES RANK	HEADQUARTERS	Phone*
INGERSOLL-RAND 386	123	Woodcliff Lake, N.J.	1-201-573-0123
INLAND STEEL INDUSTRIES 407	129	Chicago	1-312-346-0300
INTEL 297	98	Santa Clara, Calif.	1-408-765-8080
INTL. BUSINESS MACHINES 6	4	Armonk, N.Y.	1-914-765-1900
INTERNATIONAL PAPER 102	31	Purchase, N.Y.	1-914-397-1500
JAMES RIVER CORP. OF VA. 310	106	Richmond	1-804-644-5411
JEFFERSON SMURFIT 461	145	St. Louis	1-314-746-1100
JOHNSON CONTROLS 309	105	Milwaukee	1-414-228-1200
JOHNSON & JOHNSON 106	33	New Brunswick, N.J.	1-908-524-0400
KELLOGG 252	85	Battle Creek, Mich.	1-616-961-2000
KERR-MCGEE 418	131	Oklahoma City	1-405-270-1313
KIMBERLY-CLARK 212	71	Dallas	1-214-830-1200
LILLY (ELI) 257	88	Indianapolis	1-317-276-2000
LITTON INDUSTRIES 272	92	Beverly Hills	1-310-859-5000
LOCKHEED 139	46	Calabasas, Calif.	1-818-876-2000
LTV 238	81	Dallas	1-214-979-7711
LYONDELL PETROCHEMICAL 255	87	Houston	1-713-652-7200
MARTIN MARIETTA 239	82	Bethesda, Md.	1-301-897-6000
MASCO 434	137	Taylor, Mich.	1-313-274-7400
MAYTAG 454	141	Newton, Iowa	1-515-792-8000
MCDONNELL DOUGLAS 62	20	St. Louis	1-314-232-0232
MEAD 306	103	Dayton	1-513-495-6323
MERCK 157	54	Rahway, N.J.	1-908-594-4000
MINNESOTA MINING & MFG. 90	28	St. Paul	1-612-733-1110
MOBIL 11	6	Fairfax, Va.	1-703-846-3000
MONSANTO 155	52	St. Louis	1-314-694-1000
MOTOROLA 121	38	Schaumburg, Ill.	1-708-576-5000
NAVISTAR INTERNATIONAL 392	126	Chicago	1-312-836-2000
NORTHROP 260	90	Los Angeles	1-213-553-6262
OCCIDENTAL PETROLEUM 131	42	Los Angeles	1-310-208-8800
OWENS-CORNING FIBERGLAS 489	154	Toledo	1-419-248-8000
OWENS-ILLINOIS 360	114	Toledo	1-419-247-5000
PENNZOIL 500	157	Houston	1-713-546-4000
PEPSICO 54	16	Purchase, N.J.	1-914-253-2000
PFIZER 203	66	New York	1-212-573-2323
PHILIP MORRIS 14	7	New York	1-212-880-5000
PHILLIPS PETROLEUM 94	29	Bartlesville, Okla.	1-918-661-6600
PITNEY BOWES 404	127	Stamford, Conn.	1-203-356-5000
PPG INDUSTRIES 258	89	Pittsburgh	1-412-434-3131
PREMARK INTERNATIONAL 484	152	Deerfield, Ill.	1-708-405-6000
PROCTER & GAMBLE 38	13	Cincinnati	1-513-983-1100
QUAKER OATS 240	83	Chicago	1-312-222-7111
RALSTON PURINA 191	62	St. Louis	1-314-982-1000
RAYTHEON 148	50	Lexington, Mass.	1-617-862-6600
REYNOLDS METALS 253	86	Richmond	1-804-281-2000
RJR NABISCO HOLDINGS 73	24	New York	1-212-258-5600
ROCKWELL INTERNATIONAL 110	34	Seal Beach, Calif.	1-310-797-3311
ROHM & HAAS 488	153	Philadelphia	1-215-592-3000
SARA LEE 105	32	Chicago	1-312-726-2600
SCHERING-PLOUGH 380	120	Madison, N.J.	1-201-822-7000
SCOTT PAPER 283	95	Philadelphia	1-215-522-5000
SEAGATE TECHNOLOGY 499	155	Scotts Valley, Calif.	1-408-438-6550
STONE CONTAINER 269	91	Chicago	1-312-346-6600
STRAUSS (LEVI) ASSOCIATES 291	96	San Francisco	1-415-544-6000
SUN 133	43	Philadelphia	1-215-977-3000
SUN MICROSYSTEMS 425	135	Mountain View, Cal.	1-415-960-1300
TELEDYNE 430	136	Los Angeles	1-310-277-3311
TENNECO 85	26	Houston	1-713-757-2131

*Phone numbers include country and area codes

COMPANY GLOBAL 500 RANK	COUNTRY SALES RANK	HEADQUARTERS	Phone*
TEXACO 23	9	White Plains, N.Y.	
TEXAS INSTRUMENTS 214	72	Dallas	
TEXTRON 184	60	Providence	
TIMES MIRROR 379	119	Los Angeles	
TRW 181	59	Cleveland	
TYCO LABORATORIES 437	138	Exeter, N.H.	
TYSON FOODS 351	112	Springdale, Ark.	
UNION CAMP 456	142	Wayne, N.J.	
UNION CARBIDE 192	63	Danbury, Conn.	
UNISYS 159	56	Blue Bell, Pa.	
UNITED TECHNOLOGIES 50	15	Hartford	
UNIVERSAL 421	133	Richmond	
UNOCAL 140	47	Los Angeles	
UPJOHN 391	125	Kalamazoo, Mich.	
USX 70	23	Pittsburgh	
VF 457	143	Wyomissing, Pa.	
WARNER-LAMBERT 277	93	Morris Plains, N.J.	
WESTINGHOUSE ELECTRIC 100	30	Pittsburgh	
WEYERHAEUSER 158	55	Tacoma	
WHIRLPOOL 216	73	Benton Harbor, Mich.	
WHITMAN 473	150	Rolling Meadows, Ill.	
XEROX 66	21	Stamford, Conn.	

VENEZUELA 1 COMPANY

PDVSA 45	1	Caracas	

ZAMBIA 1 COMPANY

ZAMBIA INDUSTRIAL & MINING 297	1	Lusaka	

CONTINUED

THE GLOBAL 500

INDEX

COMPANY	GLOBAL 500 RANK
A	
ABB ASEA BROWN BOVERI	33
ABBOTT LABORATORIES	210
AEROSPATIALE	162
AGWAY	390
AIR PRODUCTS & CHEMICALS	458
AISIN SEIKI	267
AJINOMOTO	324
AKZO	154
ALCAN ALUMINIUM	186
ALCATEL ALSTHOM	36
ALLIED-LYONS	176
ALLIED-SIGNAL	115
ALPS ELECTRIC	417
ALUMINUM CO. OF AMERICA	136
ALUSUISSE-LONZA	308
AMAX	367
AMERADA HESS	226
AMERICAN BRANDS	168
AMERICAN CYANAMID	281
AMERICAN HOME PRODUCTS	204
AMERICAN STANDARD	383
AMOCO	41
AMP	440
ANHEUSER-BUSCH	128
APPLE COMPUTER	227
ARBED	251
ARCHER-DANIELS-MIDLAND	165
ARJO WIGGINS APPLETON	317
ASAHI BREWERIES	285
ASAHI CHEMICAL INDUSTRY	149
ASAHI GLASS	147
ASHLAND OIL	150
ASSOCIATED BRITISH FOODS	218
ATLANTIC RICHFIELD	67
AUSTRIAN INDUSTRIES	80
AVON PRODUCTS	384
B	
BAKER HUGHES	466
BARLOW RAND	118
BASF	37
BAXTER INTERNATIONAL	156
BAYER	42
BEIERSDORF	494
BERKSHIRE HATHAWAY	465
BERTELSMANN	152
BESNIER	427
BETHLEHEM STEEL	323
BHARAT PETROLEUM	490
BICC	236
BLACK & DECKER	304
BMW	64
BOC GROUP	289
BOEHRINGER INGELHEIM	435
BOEING	32
BOISE CASCADE	343
BORAL	448
BORDEN	199
BOSCH (ROBERT)	52
BRIDGESTONE	93
BRISTOL-MYERS SQUIBB	122
BRITISH AEROSPACE	60
BRITISH COAL	196
BRITISH PETROLEUM	9
BRITISH STEEL	146
BROKEN HILL PROPRIETARY	104
BSN	111
BTR	109
BULL	245
BURMAH CASTROL	333
C	
CADBURY SCHWEPPES	254
CAMPBELL SOUP	232
CAMPINA MELKUNIE	484
CANON	83
CARL-ZEISS-STIFTUNG	481
CATERPILLAR	134
CEA-INDUSTRIE	211
CEPSA	327
CHAMPION INTERNATIONAL	296
CHEVRON	24
CHINESE PETROLEUM	166
CHIQUITA BRANDS INTL.	305
CHRYSLER	31
CIBA-GEIGY	74
CIMENTS FRANÇAIS	464
CITIZEN WATCH	459
CMB PACKAGING	313
COAL INDIA	478
COASTAL	143
COATS VIYELLA	394
COCA-COLA	116
COCA-COLA ENTERPRISES	342
COCKERILL SAMBRE	278
CODELCO-CHILE	489
COLGATE-PALMOLIVE	242
COMPAQ COMPUTER	423
CONAGRA	56
CONTINENTAL	261
COOPER INDUSTRIES	235
CORNING	419
COSMO OIL	132
COURTAULDS	382
CPC INTERNATIONAL	234
CRA	358
CROWN CORK & SEAL	363
CSR	376
CUMMINS ENGINE	405
D	
DAEWOO	43
DAF	471
DAIDO STEEL	401
DAIHATSU MOTOR	229
DAIKIN INDUSTRIES	449
DAIMLER-BENZ	10
DAINIPPON INK & CHEMICALS	221
DAI NIPPON PRINTING	167
DAISHOWA PAPER MFG.	479
DALGETY	206
DANA	307
DASSAULT AVIATION	482
DE BEERS CONSOLIDATED MINES	349
DEERE	205
DEGUSSA	173
DEUTSCHE BABCOCK	316
DIGITAL EQUIPMENT	86
DONNELLEY (R.R.) & SONS	353
DOOSAN GROUP	388
DOW CHEMICAL	58
DRESSER INDUSTRIES	302
DSM	279
DU PONT (E.I.) DE NEMOURS	22
E	
EASTMAN KODAK	55
EATON	372
EFIM	330
EG&G	499
ELECTROLUX	91
ELF AQUITAINE	25
EMERSON ELECTRIC	190
ENI	21
ENTREPRISE MINIERE & CHIM.	485
ERICSSON (L.M.)	183
EXXON	3
F	
FARMLAND INDUSTRIES	374
FERRUZZI FINANZIARIA	82
FIAT	15
FLETCHER CHALLENGE	201
FMC	348
FORD MOTOR	4
FOSTER'S BREWING	266
FUJI ELECTRIC	243
FUJI HEAVY INDUSTRIES	248
FUJI PHOTO FILM	163
FUJITSU	51
FURUKAWA ELECTRIC	256
G	
GANNETT	409
GEC (GENERAL ELECTRIC CO.)	119
GENERAL DYNAMICS	144
GENERAL ELECTRIC	8
GENERAL MILLS	202
GENERAL MOTORS	1
GEORGIA-PACIFIC	117
GILLETTE	301
GKN	403
GLAXO HOLDINGS	217
GOLDSTAR	286
GOODMAN FIELDER WATTIE	439
GOODYEAR TIRE & RUBBER	127
GRACE (W.R.)	208
GRAND METROPOLITAN	78
GRUMMAN	344
GRUNDIG	470
GUINNESS	271
H	
HACHETTE	268
HANSON	114
HARRIS	441
HEINEKEN	339
HEINZ (H.J.)	219
HENKEL	185
HERCULES	462
HERSHEY FOODS	468
HEWLETT-PACKARD	81
HILLSDOWN HOLDINGS	169
HINDUSTAN PETROLEUM	445
HINO MOTORS	298
HITACHI	12
HOECHST	34
HOESCH	241
HOLDERBANK	335
HONAM OIL REFINERY	369
HONDA MOTOR	28
HONEYWELL	233
HONSHU PAPER	402
HOOGOVENS GROUP	321
HORMEL (GEO. A.)	479
HOÜLS	231
HYOSUNG GROUP	246
HYUNDAI HEAVY INDUSTRIES	213
HYUNDAI MOTOR	170
I	
IDEMITSU KOSAN	77
IMPERIAL CHEMICAL IND.	49
INCO	451
INDIAN OIL	135
INGERSOLL-RAND	386
INI	61
INLAND STEEL INDUSTRIES	407
INTEL	297
INTL. BUSINESS MACHINES	6
INTERNATIONAL PAPER	102
IRI	7
ISCOR	476
ISHIKAWAJIMA-HARIMA HVY. IND.	207
ISUZU MOTORS	120
ITOHAM FOODS	426
J	
JAMES RIVER CORP. OF VA.	310
JAPAN TOBACCO	193
JEFFERSON SMURFIT	461
JOHNSON CONTROLS	309
JOHNSON & JOHNSON	106
JOHNSON MATTHEY	431
JUJO PAPER	340
K	
KANEBO	294
KANTO AUTO WORKS	463
KAO	300
KAWASAKI HEAVY INDUSTRIES	195
KAWASAKI STEEL	145
KELLOGG	252
KEMIRA	493
KERR-MCGEE	418
KIAMOTORS	350
KIMBERLY-CLARK	212
KIRIN BREWERY	222
KLÖCKNER-WERKE	325
KOBE STEEL	129
KOÇ HOLDING	141
KOMATSU	197
KONICA	357
KRUPP (FRIED.)	151
KUBOTA	225
KVAERNER	455
KYMMENE	412
KYOCERA	408
L	
LABATT (JOHN)	337
LAFARGE COPPEE	264
L'AIR LIQUIDE	259
LIEBHERR-INTERNATIONAL	467
LILLY (ELI)	257
LINDE	334
LITTON INDUSTRIES	272
LOCKHEED	139
L'ORÉAL	247
LTV	238
LUCAS INDUSTRIES	320
LUCKY	444
LVMH	355
LYONDELL PETROCHEMICAL	255

INDEX

COMPANY	GLOBAL 500 RANK
M	
MAN	113
MANNESMANN	79
MARTIN MARIETTA	239
MASCO	434
MATRA	345
MATSUSHITA ELECTRIC IND.	13
MATSUSHITA ELECTRIC WORKS	175
MAYTAG	454
MAZDA MOTOR	57
MCDERMOTT INTERNATIONAL	432
MCDONNELL DOUGLAS	62
MEAD	306
MEIJI MILK PRODUCTS	436
MERCK	157
METALLGESELLSCHAFT	98
MICHELIN	112
MINNESOTA MINING & MFG.	90
MITSUBISHI ELECTRIC	46
MITSUBISHI HEAVY INDUSTRIES	63
MITSUBISHI KASEI	153
MITSUBISHI MATERIALS	215
MITSUBISHI MOTORS	53
MITSUBISHI OIL	230
MITSUBISHI PETROCHEMICAL	338
MITSUI MINING & SMELTING	375
MITSUI PETROCHEMICAL IND.	497
MITSUI TOATSU CHEMICALS	364
MOBIL	11
MO DO	460
MONSANTO	155
MOTOROLA	121
N	
NAVISTAR INTERNATIONAL	392
NEC	39
NESTE	89
NESTLÉ	26
NEWS CORP.	161
NICHIREI	377
NINTENDO	399
NIPPONDENSO	123
NIPPON LIGHT METAL	312
NIPPON MEAT PACKERS	275
NIPPON MINING	178
NIPPON OIL	65
NIPPON STEEL	47
NIPPON SUISAN	362
NISSAN DIESEL MOTOR	477
NISSAN MOTOR	19
NISSAN SHATAI	368
NISSHIN STEEL	400
NKK	87
NOBEL INDUSTRIES	331
NOKIA	347
NORANDA	200
NORDICO	346
NORSK HYDRO	142
NORTHERN TELECOM	174
NORTHROP	260
NSK	429
O	
OCCIDENTAL PETROLEUM	131
OIL & NATURAL GAS COMMISSION	311
OJI PAPER	295
OKI ELECTRIC INDUSTRY	299
OLIVETTI	209
OMRON	420
ONODA CEMENT	406
OUTOKUMPU	433
OWENS-CORNING FIBERGLAS	488
OWENS-ILLINOIS	360
P	
PACIFIC DUNLOP	352
PDVSA	45
PEARSON	469
PECHINEY	95
PEMEX (PETROLEOS MEXICANOS)	59
PENNZOIL	500
PEPSICO	54
PERNOD RICARD	495
PETROBRAS	99
PETRO-CANADA	322
PETROFINA	68
PETROGAL	378
PETROL. AUTH. OF THAILAND	447
PETRONAS	237
PEUGEOT	35
PFIZER	203
PHILIP MORRIS	14
PHILIPS ELECTRONICS	29
PHILLIPS PETROLEUM	94
PILKINGTON	282
PIONEER ELECTRONIC	326
PIONEER INTERNATIONAL	395
PIRELLI	177
PITNEY BOWES	404
POHANG IRON & STEEL	179
PPG INDUSTRIES	258
PREMARK INTERNATIONAL	483
PREUSSAG	72
PROCORDIA	224
PROCTER & GAMBLE	38
Q	
QUAKER OATS	240
R	
RACAL ELECTRONICS	359
RALSTON PURINA	191
RANKS HOVIS MCDOUGALL	480
RAYTHEON	148
RECKITT & COLMAN	387
REED INTERNATIONAL	452
RENAULT	30
REPOLA	263
REPSOL	71
REYNOLDS METALS	253
RHÔNE-POULENC	76
RICOH	198
RJR NABISCO HOLDINGS	73
RMC GROUP	290
ROCHE	164
ROCKWELL INTERNATIONAL	110
ROHM & HAAS	487
ROLLS-ROYCE	228
ROTHMANS INTERNATIONAL	318
ROYAL DUTCH/SHELL GROUP	2
RTZ	223
RUHRKOHLE	75
S	
SAAB-SCANIA	276
SABANCI (HACI ÖMER)	287
SAINT-GOBAIN	92
SAMSUNG GROUP	18
SANDOZ	138
SANOFI	446
SANKYO	424
SANYO ELECTRIC	107
SANYO-KOKUSAKU PULP	422
SARA LEE	105
SASOL	450
SCA (SVENSKA CELLULOSA)	265
SCHERING	361
SCHERING-PLOUGH	380
SCHINDLER HOLDING	485
SCHNEIDER	130
SCOTT PAPER	283
SEAGATE TECHNOLOGY	498
SEAGRAM	273
SEIKO	443
SEKISUI CHEMICAL	250
SHARP	126
SHIN-ETSU CHEMICAL	410
SHISEIDO	370
SHOWA DENKO	293
SHOWA SHELL SEKIYU	137
SIEBE	491
SIEMENS	17
SKF	314
SMITHKLINE BEECHAM	171
SNECMA	328
SNOW BRAND MILK PRODUCTS	194
SODIAAL	438
SOLVAY	188
SONY	40
SSANGYONG GROUP	101
STATOIL	108
STEEL AUTHORITY OF INDIA	371
STONE CONTAINER	269
STORA	124
STRAUSS (LEVI) ASSOCIATES	291
SÜDZUCKER	474
SULZER BROTHERS	303
SUMITOMO CHEMICAL	172
SUMITOMO ELECTRIC IND.	180
SUMITOMO HEAVY IND.	415
SUMITOMO METAL IND.	97
SUMITOMO METAL MINING	336
SUMITOMO RUBBER IND.	329
SUN	133
SUNKYONG	96
SUN MICROSYSTEMS	425
SUNTORY	366
SUZUKI MOTOR	160
T	
TABACALERA	385
TAIYO FISHERY	187
TAKEDA CHEMICAL IND.	280
TATE & LYLE	249
TDK	356
TEIJIN	315
TELEDYNE	430
TENNECO	85
TETRA PAK ALFA-LAVAL	182
TEXACO	23
TEXAS INSTRUMENTS	214
TEXTRON	184
THOMSON	103
THOMSON CORP.	262
THYSSEN	48
TIMES MIRROR	379
TONEN	244
TOPPAN PRINTING	189
TORAY INDUSTRIES	220
TOSHIBA	27
TOTAL	44
TOTO	472
TOYOBO	354
TOYODA AUTO. LOOM WORKS	332
TOYO SASH	396
TOYO SEIKAN	270
TOYOTA AUTO BODY	398
TOYOTA MOTOR	5
TRELLEBORG	365
TRW	181
TÜPRAŞ	393
TYCO LABORATORIES	437
TYSON FOODS	351
U	
UBE INDUSTRIES	292
ULTRAMAR	428
UNIGATE	319
UNILEVER	20
UNION CAMP	456
UNION CARBIDE	192
UNION LAITIERE NORMANDE	496
UNION MINIERE	413
UNISYS	159
UNITED BISCUITS	274
UNITED TECHNOLOGIES	50
UNITIKA	492
UNIVERSAL	421
UNOCAL	140
UPJOHN	391
USINOR-SACILOR	69
USX	70
V	
VALEO	389
VARITY	381
VEBA OEL	125
VF	457
VIAG	84
VITRO	442
VOLKSWAGEN	16
VOLVO	88
W	
WARNER-LAMBERT	277
WELLCOME	453
WESTINGHOUSE ELECTRIC	100
WEYERHAEUSER	158
WHIRLPOOL	216
WHITBREAD	411
WHITMAN	473
X	
XEROX	66
Y	
YAMAHA	373
YAMAHA MOTOR	288
YAMAZAKI BAKING	341
YOKOHAMA RUBBER	416
YPF (YACIMIENTOS PETROL.)	284
Z	
ZAMBIA INDUSTRIAL & MINING	397
ZF FRIEDRICHSHAFEN	414

SPECIAL
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AUGUST 10, 1992

FORTUNE

CHILDREN IN CRISIS

The Struggle to Save America's Kids

13- and 14-year-olds in Albuquerque

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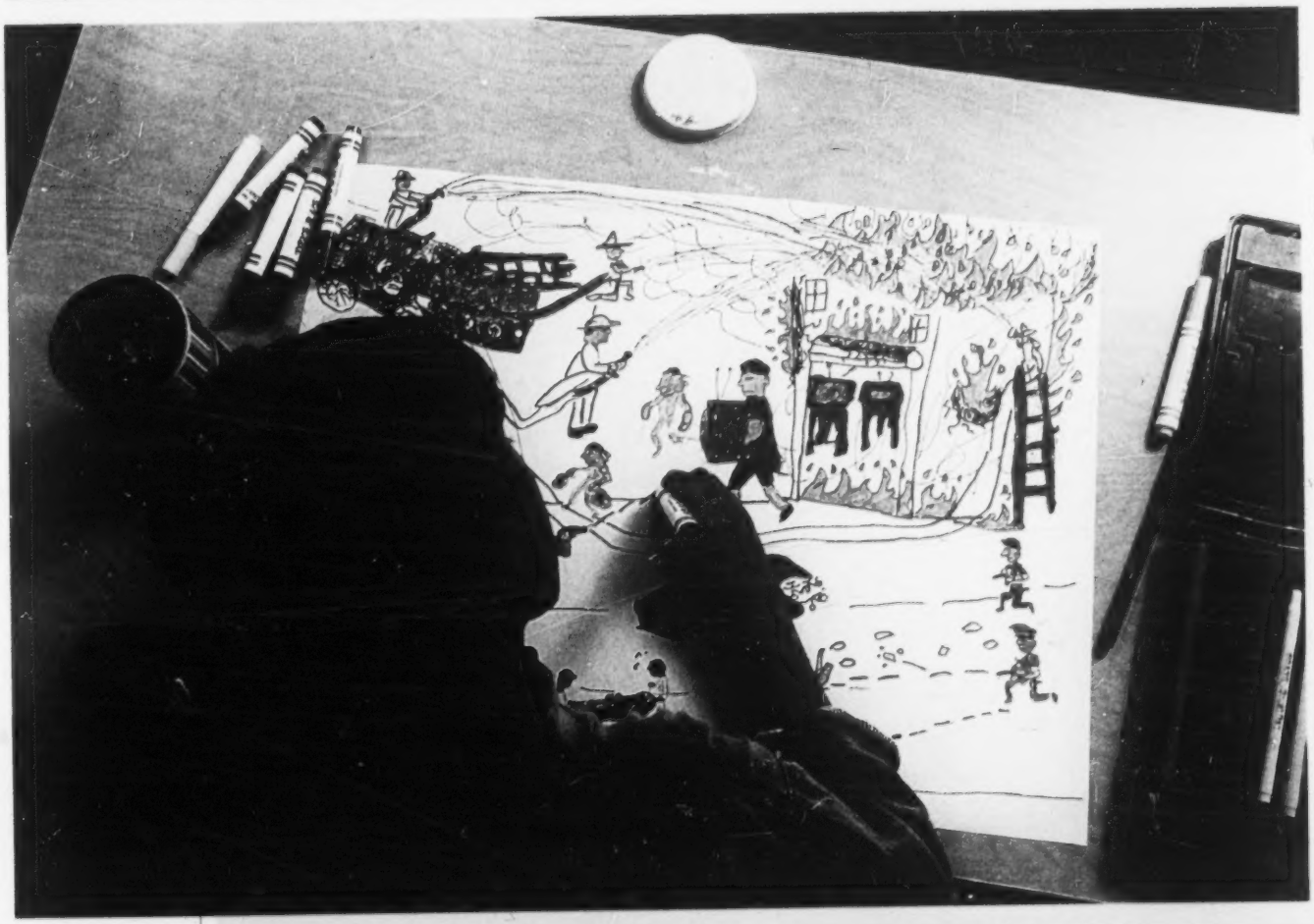
AUGUST 10, 1992

VOL. 126, NO. 3

FORTUNE



ABOVE: An L.A. student provides a graphic commentary on the May riots. Photo by Alon Reininger (Contact).

COVER: FORTUNE went to the source on growing up today. Photo by David Strick (Onyx).

CHILDREN IN CRISIS/SPECIAL REPORT

STRUGGLING TO SAVE OUR KIDS 34

A good public education, safe streets, and family dinners seem like quaint memories of the distant past. Playground fights that used to end in bloody noses now end in death. The welfare of our children is at such risk that FORTUNE decided to devote this issue to how we can come to grips with the hazards of growing up in the Nineties. Corporate America's stake is clear: The well-being of kids is a competitiveness issue—and their future is ours as well. *by Louis S. Richman*

THE FAMILY

THE AMERICAN FAMILY, 1992 42

Everyone knows how vastly it has been transformed, but we are just learning how profoundly disturbing the implications are for kids—and for American society. The epidemic of divorce, remarriage, redivorce, illegitimacy, plus new strains within intact families has precipitated a revolution in the inner lives of our children. It affects companies through their workers, and some employers are wisely responding. Here's what we can do. *by Myron Magnet*

"I don't make decisions on the golf course. Golf involves 100% concentration." 8

"My generation gives things rather than time to kids. Time is one of the most important things you can give a kid." 42

"I was mugged when I was 8. I was going to the store to buy bread. I was so scared." 54

"What we need to do is gun-proof children rather than child-proof guns." 62

"I decided to stop vandalizing cars and start fixing them." 78

"You lose your conscience in a gang. The gang is like a body, and you're just one of the organs." 90

CHILD CARE

WHO'S MINDING AMERICA'S KIDS 50
For millions, it's not their parents during working hours. Finding quality care is never easy, but some companies are helping workers. *by Susan Caminiti*

VOICES

TEENAGERS TALK ABOUT LIFE 54
Violence, hopes, cops, racism, drugs, school, family—nine kids from three cities tell what growing up is really like. *by Susan E. Kuhn*

VIOLENCE

KIDS ARE KILLING, DYING, BLEEDING 62
We are seeing an escalation of juvenile homicide, suicide, and abuse. We need to focus on prevention, not just punishment. *by Ronald Henkoff*

PORTFOLIO

SOCIETY'S ORPHANS 70
Some 200,000 boys and girls live in children's residences or group homes. But forget Dickens's grim picture. A FORTUNE portfolio. *by Andrew Kupfer*

BOYS

MOST DANGEROUS AND ENDANGERED 78
As both victims and perpetrators of crime, America's boys need help. An important lesson: Focus on peer groups, not just individuals. *by Rick Tetzeli*

GIRLS

WHY IT'S SO TOUGH TO BE A GIRL 82
The age-old pains of adolescence hurt more than ever when you're under constant pressure to be beautiful and have sex. *by Nancy J. Perry*

WORK

WHY CHILDREN SHOULD LEARN ABOUT WORK 86
For a better work force—with a better work ethic—companies should help link academic subjects to business needs. *by Alan Deutschman*

SURVIVORS

'I'M THE LUCKIEST PERSON I EVER MET' 90
Nine successful men and women tell how they managed to overcome their often horrendous childhoods—where poverty was not necessarily the enemy. *by Patricia Sellers*

DEPARTMENTS

EDITOR'S DESK 4

NEWS/TRENDS 8
Why Clinton needs the 'burbs, exporting babies to Japan, Peter Lynch's Moscow mission, Olympic gold, meteorology as a hot career, and more.

FORTUNE FORECAST 16
The U.S. economy is not generating what people want most: jobs and job security. But the outlook is improving. *by Joseph Spiers*

Economic Intelligence: What's wrong with U.S. workers, and testing time for lean inventories.

PERSONAL INVESTING 22
Some utility stocks offer good prospects for dividend growth. *by William E. Sheeline*

Also: Pass on CMO pass-throughs, and Portfolio Talk with Matthew Weatherbie of Putnam Voyager.

LETTERS TO FORTUNE 28

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EDITOR'S DESK

THE DIFFICULTIES IN GROWING UP

On a playground in New York City, assistant managing editor Morrison faces America's future.

THIS IS A MOST UNUSUAL, and we think valuable, issue of FORTUNE. Except for our regular departments, it is entirely devoted to one topic: the state of America's children. It is a subject of vital interest to us all—as managers and business people, as parents, as Americans. Much has been written about the problems of poor and minority youngsters in our inner cities, but they are not the only kids in crisis. At all income levels and in all ethnic groups, children today face a combination of stresses and dangers—and opportunities—unlike those confronted by any other generation.

Putting this issue together was assistant managing editor Ann Morrison, herself the (hard) working mother of two teenagers, Tim and Mat. Morrison says, "FORTUNE has distinguished itself for its coverage of education and the involvement of business in education. But schools alone cannot address all the problems of kids. In this issue we wanted to look at the rest of a child's life—and that look is very troubling."

Evidence of physical and emotional impoverishment is everywhere. Some 13 million youngsters—20% of the total—live in poverty. For boys, violent death is the second-leading cause of death, after auto accidents. More than four out of ten girls will become pregnant at least once in their teens.

In the heat of a presidential campaign, the crisis of America's children may well be reduced to sloganeering and finger pointing—not of much use beyond November. More is needed, in part because the problems facing America's children are a key business issue too. These are our children, our co-workers' children, our future colleagues and customers. America's competitiveness depends on their skill, their well-being, their spirit, and their minds. FORTUNE's readers want to know what works. You'll find plenty of stirring examples here of people who make a productive difference in the lives of our children.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October, by Time Inc. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., Chairman; Don Logan, President; Joseph A. Ripp, Treasurer; Peter G.W. Johnson, Secretary. Subscriptions: U.S. possessions, one year (27 issues) $59.95. Canada, one year (27 issues) $53.73. Second-class postage paid at New York, NY, and at additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer inquiries: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000. © 1992 Time Inc. All rights reserved. FORTUNE is a registered mark of Time Inc.

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After the convention hoopla, a Clinton aide warns: "We need a strategy aimed at the forgotten middle class."

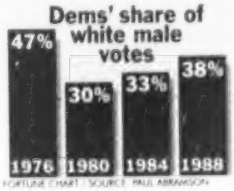
WHY BILL CLINTON NEEDS THE 'BURBS

■ Like Michael Dukakis in 1988, Bill Clinton surely got a hearty bounce from his surprisingly unacrimonious New York City convention. But no one in the Clinton camp is taking his lead in the polls for granted, particularly with Ross Perot out. Says the nominee's chief strategist James Carville: "At this stage in a presidential race, you normally have 20% of the electorate at play. This time, over 60% are up for grabs. It's the most dynamic election in my memory. I'm scared all the time."

Clinton eyes . . .

. . . Perot's people.

And for good reason. The Democrats' share of white male voters is small (see chart), and the party fears that those who had flocked to Perot will go to the GOP in November. Says Al From, president of the Democratic Leadership Council and an architect of the Clinton strategy: "The notion that Democrats enjoy an enormous base is a fantasy. At best, African Americans and white liberals represent 27% of the electorate. That's not enough to win. We need a 51% strategy aimed at the forgotten middle class."



The party's strategy, a sound one, is to target the broad middle class, largely in the suburbs, where for the first time this year a majority of the electorate lives. The Democrats hope to portray Clinton as the only reasonable agent of change, their watchword in the '92 campaign.

Hence the choice of fellow middle-of-the-roader Senator Al Gore as Veep, an uncharacteristically moderate party platform, and a convention that highlighted pro-choice women candidates in what could turn out to be the year of the woman voter. Maybe ever more important, Clintonites want voters to see him as a seasoned leader dedicated to economic growth.

But Clinton's economic program, while innovative in some areas, includes little to slow the overall growth of federal spending or substantially reduce the deficit. Bush strategists could capitalize on this, painting Clinton as another tax-and-spend liberal. Expect more bimbo baiting too. **– Ann Reilly Dowd**

NEW U.S. EXPORT TO JAPAN: BABIES

■ One possible, if perhaps slightly distasteful, way to reduce the U.S. trade deficit with Japan: Sell them babies fathered by Japanese and gestated in American wombs.

New York City's **Infertility Center**, which finds surrogate mothers for infertile couples, has expanded overseas and is now doing business with Japanese couples. Infertility carries a big cultural stigma among the Japanese, adoption is frowned upon, and clinics are banned from providing surrogate mothers. So now the center is seeking Asian American women for artificial insemination by Japanese men.

Says Noel Keane, the center's founder and president, of the mothers: "They don't have to be Japanese American. We're only looking for the Asian quality, particularly the eyes." Accordingly, Keane has placed advertisements in Korean-language newspapers in the U.S. The woman's fee: between $10,000 and $25,000.

The clinic has lined up surrogate mothers for half a dozen Japanese customers, and one baby has already been delivered. Fifteen more Japanese couples are on a waiting list.

How would half-Korean children make out in a society

Keane says that surrogate babies like this help him make lifelong friends.

ECONOMIC INTELLIGENCE

WHAT'S WRONG WITH WORKERS

■ American competitiveness is ailing because workers can't spell, do long division, or tell you who Sophocles was, right? Not necessarily, argues Peter Cappelli, an associate professor at the Wharton Business School. He has been studying the matter closely since 1988, when he was on a Labor Department commission that examined work force quality. Cappelli says the underlying trouble is really in poor employee *attitudes*, or what he calls a lack of "work maturity"—that is, conscientiousness, ability to function without close supervision, respect for others, and a positive view of authority.

"Executives at the companies we studied weren't bitching about skills," he says. "They said, 'We'll train workers if the schools can produce them with the right attitudes.'" Indeed, he adds, good grades in school are a poor predictor of job success. AT&T, renowned for sophisticated hiring techniques, has found extracurricular activity a better gauge.

So just what does a good work attitude look like? You see it when a plant employee, say, fixes or reports broken equipment even though it might not be her specific job to do so. Says Cappelli: "You could say that, in part, it's what you do when nobody's looking."

There's no easy solution, says Cappelli, especially now with cutbacks in the armed forces—which he calls "one of the greatest attitude adjustment devices around." (For more on teaching kids about work, see our Special Report.) While a company can create a culture that fosters responsible work attitudes, "by then it might be too late—we must start earlier." Cappelli just finished teaching the first year of a new work-attitude curriculum for MBA students at Wharton that he helped create, which includes classes in teamwork, managing work and family, and leadership skills. Even that's a bit late. Says he: "It's easier to teach a sixth-grader about teamwork than it is to teach a college-educated MBA student who has had individualism stressed by years of protracted schooling." – **Andrew Erdman**

INTERNATIONAL MISERY INDEXES

	1982	1987	1992*
Japan	8.0	-1.1	0.3
Germany	12.8	4.2	12.7
U.S.	19.6	15.8	13.2
France	25.0	16.3	15.6
Canada	26.9	19.1	19.1
Britain	19.7	16.7	19.6
Italy	38.4	27.9	27.5

*est

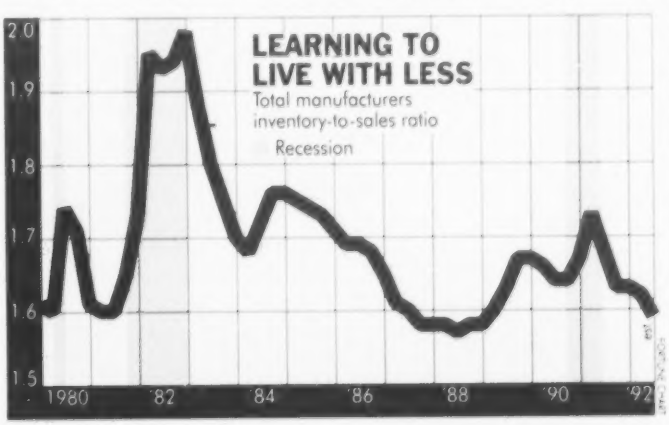
■ Miserable as the U.S. economy may be, Brown Brothers Harriman economist Lawrence Viet's comparison suggests it's not bad vs. others. The indexes include inflation, unemployment, and government and international deficits; the U.S. improvement comes mainly from trade gains.

TESTING TIME FOR LEAN INVENTORIES

■ As the saying goes, if you have too much inventory, you might get chewed out, but if you haven't enough, you might lose your job. Manufacturers take that gamble constantly, but the chips are piled a bit higher in recoveries—especially this lethargic one, when businesses want to be leaner than ever before yet can ill afford a lost sale. "Now we run with far lower inventories—it's scary as can be," says Kenneth Olsen, CEO of Digital Equipment. "And to think we worked so hard to get there."

The trend to leaner inventories picked up after the 1981-82 recession, driven both by cost considerations and by just-in-time production and management techniques. The ultimate goal of these is a smoothly knit system in which production follows demand instantly through the whole chain, virtually eliminating the need for inventory.

The new practices have been driving down—and smoothing out—the manufacturers' ratio of inventories to sales, which economists watch to tell whether goods are piling up. Since January the pace of inventory work-off has generally slowed, according to the National Association of Purchasing Managers, despite some sharp month-to-month swings. The inventory-to-sales ratio has fallen too, and based on recent surveys of the NAPM membership, Robert J. Bretz, who runs the survey committee when he's not directing corporate purchasing at Pitney Bowes, expects it to decline throughout the remainder of 1992.



So far, so good. Trouble is, many companies are still new players in this high-precision game. "Even given a four-day window, some suppliers can't deliver on time," says Ken Newton, corporate procurement director for Hewlett-Packard. Such delays could mean big problems for companies if gaps in the pipeline create shortages or force them to overstock to prevent those shortages. Joseph Tomaselli, executive vice president of merchandising for retailer Mervyn's, has already suffered from such shortfalls. Says he: "None of us were brought up this way, and we've got to learn as we go along." – **John Labate**

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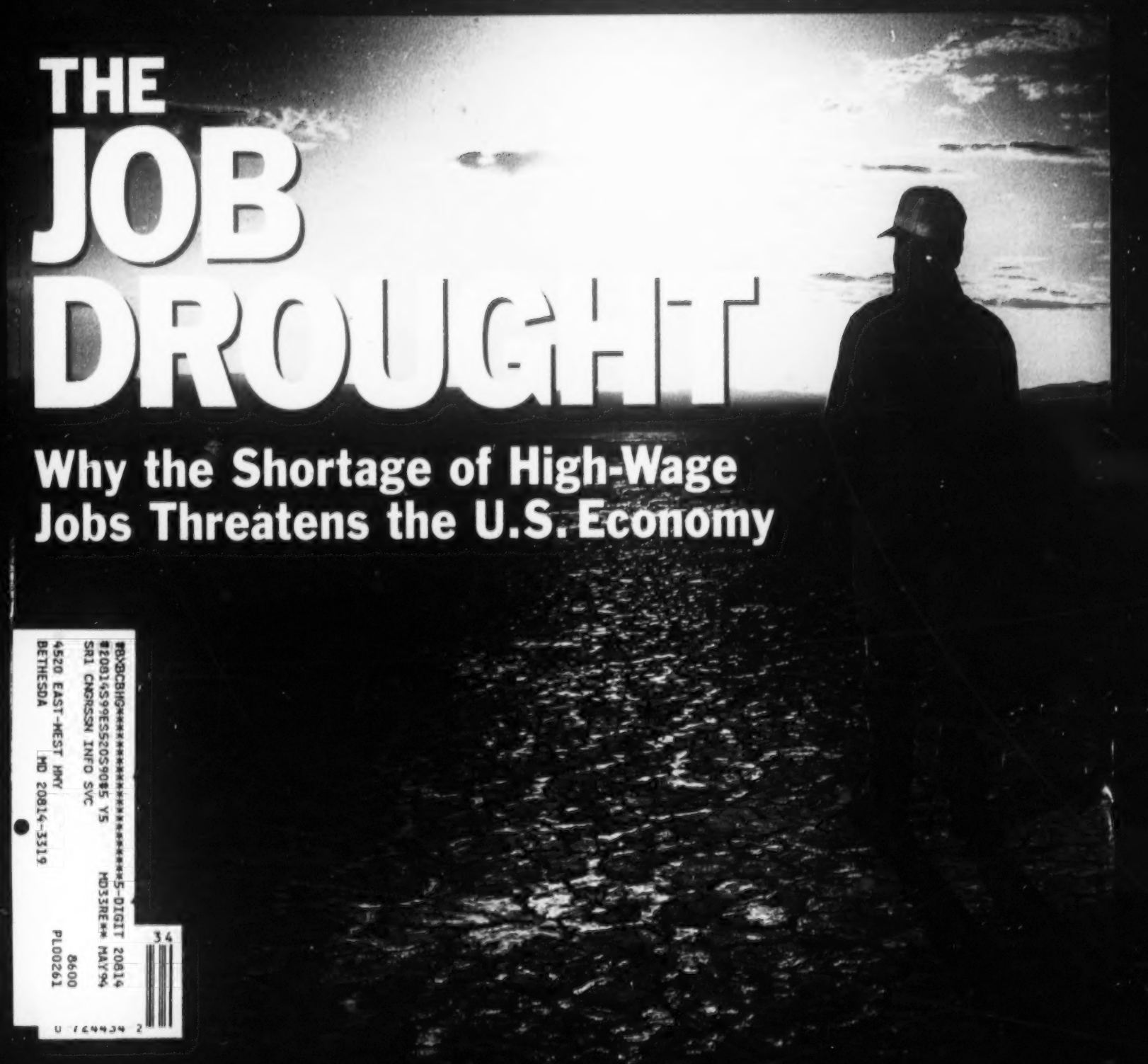

THE JOB DROUGHT

Why the Shortage of High-Wage Jobs Threatens the U.S. Economy

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FORTUNE

THE ECONOMY/COVER STORY

ABOVE: Steelworkers being retrained as air conditioner repairmen near Philadelphia. Photo by D. W. Mellor.

COVER: A quarter of those in the work force now have low-paying jobs. Photo by Mark Hanauer (Onyx).

"The most important urban policy, minority policy, and foreign policy America can have is an expanding, entrepreneurial economy of high-skill, high-wage jobs." 62

THE JOB DROUGHT 62

The problem isn't too few jobs, it's too few *good* jobs. Solid middle-class jobs have been disappearing in record numbers as large industrial corporations slash their work forces and the long-invulnerable service sector follows suit. Millions of Americans are worried not merely about staying employed, but about staying employed in jobs that will support their current standard of living. And that's holding back the recovery. *by Brian O'Reilly*

MANAGING

A WEEK ABOARD THE WAL-MART EXPRESS 77

Call it management by flying around. Executives like Andy Wilson spend 200 days a year on the road, nurturing the culture and gathering vital information to take home. *by Bill Saporito*

POLITICS & POLICY

HOW GEORGE BUSH CAN COME BACK 88

Even GOP stalwarts, like the CEOs surveyed in FORTUNE's latest poll, fault his economic leadership. To win, he needs a credible long-term growth plan—fast. *by Ann Reilly Dowd*

INNOVATION

PRODUCTS TO WATCH 99

TECHNOLOGY

PHONES THAT WILL WORK ANYWHERE 100

Here comes the Holy Grail of telecommunications—the universal wireless phone. Callers will reach you all over the world, even if they haven't a clue where you are. *by Andrew Kupfer*

CORPORATE PERFORMANCE

WHERE SERVICE FLIES RIGHT 115

The impish CEO of Southwest Airlines has boosted profits in these treacherous times by championing the customer. *by Richard S. Teitelbaum*

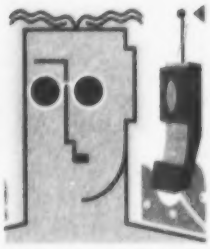
CURE FOR COSTS: DRUGS BY MAIL 116

Medco is revolutionizing the pharmaceutical industry with aggressive marketing of its economical mail-order pharmacy. *by Brian O'Reilly*

"Tintin is very Nineties. He dwells in a world where no self-sacrifice is too great to help a friend in need." 12

"Here, Friday nights are dead. In Oklahoma, going to Wal-Mart on Friday night was the thing to do." 77

"Why doesn't George Bush get off his duff and enunciate his domestic programs and beliefs? We need leadership." 88



"We all want access to other people, but we don't want all other people to have access to us." 100

"The people who work here don't think of Southwest as a business. They think of it as a crusade." 115

"Anyone who can handle 40,000 angry bees can certainly handle a financial problem." 145

CORPORATE PERFORMANCE

COMPANIES TO WATCH 133
Seattle's Starbucks is brewing heady profits with its potent java. *by Richard S. Teitelbaum*

EUROPE

EUROPE 1992: MORE UNITY THAN YOU THINK 136
The Maastricht Treaty is in danger, and the European Community is in recession. Nevertheless, the EC's drive to create a single market is surprisingly on course. *by Shawn Tully*

DEPARTMENTS

EDITOR'S DESK 4
Polling executives to discover business's mood.

INDEX 8

NEWS/TRENDS 12
Whither the long-lived bull . . . and how low Tokyo may go, women execs back the abortion pill, Belgium's hot export, how to get an MBA while commuting, sexism in Japan, and more.

DEPARTMENTS

FORTUNE FORECAST 21
Business keeps its spirits up. *by Vivian Brownstein*

Economic Intelligence: Labor force mysteries—the working poor and the underground economy.

PERSONAL INVESTING 29
Where to go for great yields. *by Susan E. Kuhn*

Also: Korean shares are a buy, stocks that could score with Clinton, and Portfolio Talk with William Dutton of Mesirow Asset Management.

LETTERS TO FORTUNE 59

FORTUNE PEOPLE 145
Music and bribes in the Buffett family, CEOs' role in the food chain, and more. *by Laurie Kretchmar*

BOOKS & IDEAS 148
This summer vacation, take along some books that pack the emotional heft—and length—to last more than a weekend. *by Gil Schwartz*

KEEPING UP *by Daniel Seligman* 155

THE GLOBAL SERVICE 500

IT WAS A VERY BAD YEAR 208
The world's largest service companies might prefer to write off last year. Measured in dollars, profits fell 15%. The declines were greatest for commercial banks and diversified service companies. Some good news: Retailers generally did well, and profits rose at savings institutions. *by Thomas J. Martin and Kevin S. Moran*

THE 500 RANKED BY SALES 211
The service companies, in eight categories.

THE 500 RANKED BY PERFORMANCE 227
Here's where to find the good news.

THE 500 RANKED WITHIN COUNTRIES 234
Where each company rates nationally, plus the headquarters city and phone number.

ALPHABETICAL INDEX TO THE GLOBAL SERVICE 500 242

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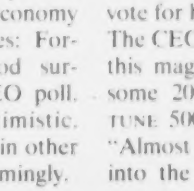
EDITOR'S DESK

CAPTURING THE BUSINESS MOOD

Forecast editor Charles Burck with Bernadine Crawford (left) and Vivian Brownstein

FORTUNE HAS FOUND no better way to chart economic currents and test political tides than by querying our readers. In this issue, we have marshaled two exclusive, long-established FORTUNE surveys to draw a finely detailed picture of how businessmen view the economy and the presidential candidates: Fortune Forecast's business mood survey and the FORTUNE 500 CEO poll. Managers are cautiously optimistic. And though George Bush sags in other polls, CEOs back him overwhelmingly.

For the past 35 years, FORTUNE has assessed the nation's business mood by sending questionnaires to chief financial officers at large manufacturing companies and conducting interviews at smaller businesses ranging from banks to shoe stores. Bernadine Crawford, who coordinates the quarterly effort, found the news from the heartland heartening. Says FORTUNE chief economist Vivian Brownstein: "Companies are becoming more aggressive in their plans to modernize plants and improve productivity." The survey also found that just 40% of the respondents thought the re-election of Bush would be good for busi-ness, but only 15% supported Clinton.



Ann Reilly Dowd

The CEOs, who were polled in con-junction with the story "How Bush Can Come Back," were even more in the President's camp: 85% said they would vote for him; 9% backed the challenger. The CEO poll, a five-year-old feature of this magazine, reflects interviews with some 200 chief executives from FOR-TUNE 500 and Service 500 companies. "Almost instantly we are able to tap into the minds of America's business leaders on key issues," says editor Richard Kirkland.

In her story on Bush, writer Ann Reilly Dowd shows how the President can win. Known as "FORTUNE Red" in Wash-ington because of her straw-berry-blonde mane, Dowd has been studying Washington since she worked in the Ford White House in 1975. This is her 15th story on Bush.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October, by Time Inc. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., Chairman; Don Logan, President; Joseph A. Ripp, Treasurer; Harry M. Johnston, Secretary. Subscriptions: U.S. possessions, one year (27 issues) $52.95; Canada, one year (27 issues) $53.73. Second class postage paid at New York, NY, and at additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. For subscription inquiries: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000. © 1992 Time Inc. All rights reserved. FORTUNE is a registered mark of Time Inc.

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THE JOB DROUGHT

The problem isn't too few jobs, it's too few *good* jobs. This shortage is driving down wages, unnerving U.S. consumers, and holding back the recovery. It won't end soon. ■ *by Brian O'Reilly*

THE GREAT American Job Machine, which once routinely churned out millions of high-wage jobs and still produces the highest standard of living in the industrialized world, is shifting gears—downward. Solid middle-class jobs, the kind that allow a single worker to be the family breadwinner, have been disappearing in record numbers and are being replaced more often than not by lower-wage jobs, many of them astonishingly inadequate. This change first hit factory floors in the 1970s. Though U.S. manufacturers have since bounced back in the global competition, their ability to generate an abundance of good jobs hasn't. Now the same ugly trend is devastating the long-invulnerable service sector as well.

Suddenly millions of Americans worry not merely about staying employed, but about staying employed in jobs that will support anything close to their current standard of living. That's why, though the present unemployment rate of 7.8% is well below the 10.8% peak it reached in the recession of the early 1980s, the general level of economic anxiety in the country has climbed to unprecedented heights, as poll after poll attests. Declining incomes, or the fear of future declines, also explain why, as consumers, Americans are sitting on the sidelines, forestalling a more robust recovery.

No wonder the Democrats have seized upon the lack of good jobs as their ticket to the White House. In his acceptance speech at the New York City convention, Democratic presidential candidate Bill Clinton declared at the outset that "the most important family policy, urban policy, labor policy, minority policy, and foreign policy America can have is an expanding, entrepreneurial economy of high-skill, high-wage jobs."

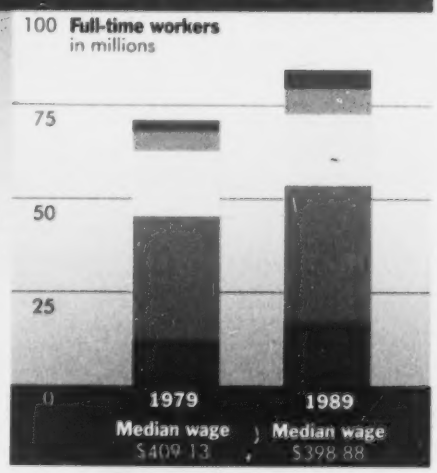
Just how serious is the job drought? Serious. Focus on the expansion of the 1980s and leave aside the past few recession-marred years, which would make the numbers look even worse. Though the U.S. economy added 13.6 million full-time jobs between 1979 and 1989, this much-touted boom was a bust for many workers. A FORTUNE analysis of Labor Department wage data reveals that nearly five million of these jobs paid less than $250 a week, or $13,000 a year, after adjusting for inflation. That's below the official poverty level for a family of four. More than 1.6 million of those low-paying jobs were positions in restaurants, stockrooms, and retail sales, where the chances for promotion are low.

Using a slightly different measure, the Census Bureau calculates that 18.9% of full-time workers had low-wage jobs in 1979. Ten years later this dismal figure had risen to 23.1% of the work force, and the recent recession has since pushed it up to 25.7%.

True, given the need to absorb record numbers of baby-boomers and women into the work force during the 1980s, even a shower of low-wage jobs was better than no jobs at all. And the decade was hardly a disaster for everybody. In most of the country in 1989—outside of places like New York and San Francisco—a salary of at least $39,000 a year, or $750 a week, counted as high wages. The economy added an impressive 3.5 million new jobs in this income bracket during the 1980s, with the most rapid growth coming at the very top,

MORE WORKERS, LESS PAY

Labor Department statistics, adjusted for inflation, show why the median wage for U.S. workers fell in the 1980s. A boom in low-wage jobs outpaced the rise in higher-paying ones.



REPORTER ASSOCIATE *Sandra L. Kinch*

PHOTOGRAPH BY MARK HANAUER—ONYX

among those earning more than $52,000 a year. Their number soared 59%, from three million to 5.1 million.

Problem is, the center didn't hold. So with more Americans working in lower-paid positions, the median weekly wage for all workers—again in 1989 dollars—dropped from $409 in 1979 to $399 ten years later. It has since slumped to $391. Traditional sources of well-paying, blue-collar jobs, such as steel, autos, and mining, were among the hardest hit. In states like Pennsylvania, laid-off steelworkers have been forced to learn less lucrative new trades, such as refrigeration system repair. This decline in median wages is spread across dozens of industries, both those where employment is expanding and those where it is shrinking (see charts, following pages).

Adding in the growing value of noncash fringe benefits, such as health or disability insurance, improves the income picture somewhat, but doesn't alter the trend. Adjusted for inflation, the Labor Department's tally of average hourly compensation for manufacturing workers, which includes fringes, fell from $14.89 in 1980 to $14.31 in 1989. And because they carry such a high and rising cost, jobs with good benefits are becoming increasingly rare in both services and manufacturing. Harvard economist James Medoff estimates that in 1979, 43% of new jobs had pensions and 23% had health benefits. By 1988, he figures, only 38% had pensions and just 15% offered medical care.

What's most troubling is that the climate for nurturing more high-wage jobs and fewer low-paying ones is likely to grow even more parched. Remember the fear, widespread in the late 1980s, that demographic changes would guarantee a shortage of labor in the 1990s? And the attendant, more hopeful thought, that a dearth of native-born white males would force more companies to hire and promote minorities and women? Forget about it. The view of many economists now is that job creation in the years ahead will barely keep pace with this far slower labor force growth. Some even foresee a labor surplus. A. Gary Shilling, a bearish but respected economic forecaster in Springfield, New Jersey, predicts that the U.S. unemployment rate will be stuck above 9% when the next millennium arrives.

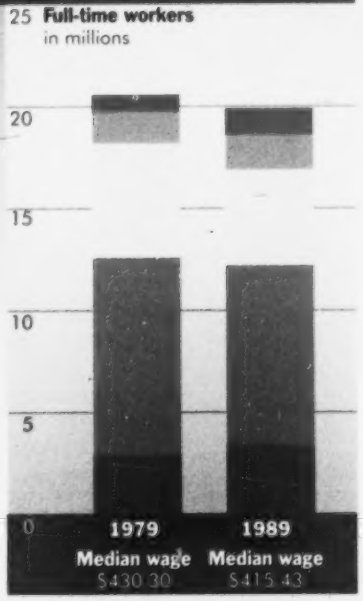
What went wrong? The manufacturing sector, which shed 675,000 jobs—many of them well paid—during the 1980s, lost another 1.1 million jobs in the recession. The

WHAT'S HAPPENING TO JOBS AND PAY

ALL MANUFACTURING

More than half a million manufacturing jobs, many paying good wages, were lost in the past decade. Among the hardest hit were the food, rubber, electrical equipment, and auto industries. Of this group, only the chemical industry created enough new high-wage jobs to lift median wages.

Key of weekly wages
- $1,000+
- $750–$999
- $500–$749
- $250–$499
- $0–$249



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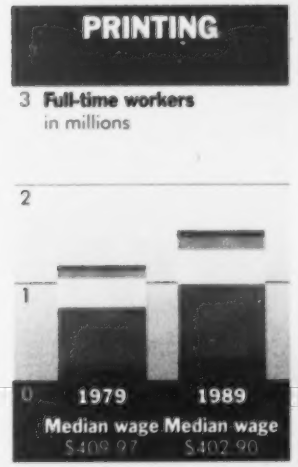

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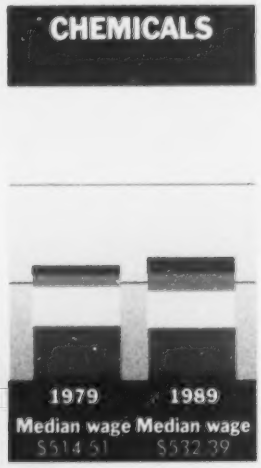

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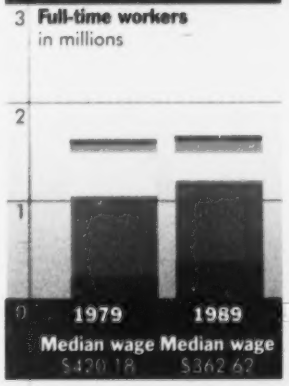

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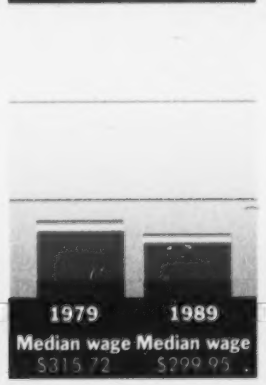

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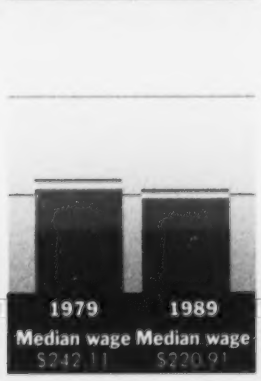

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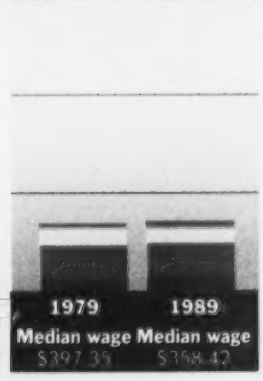

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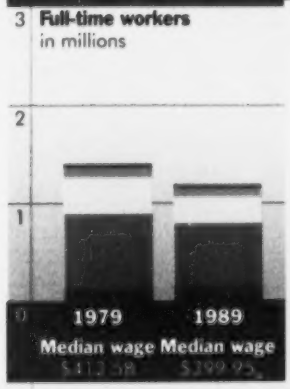

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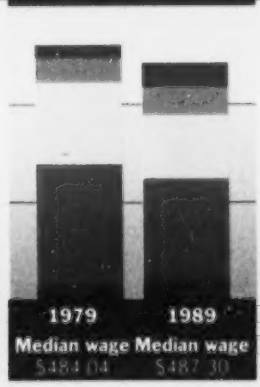

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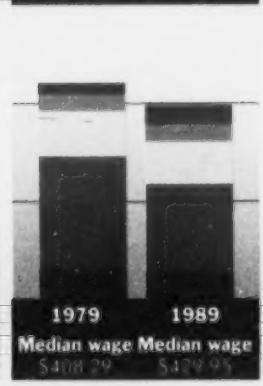

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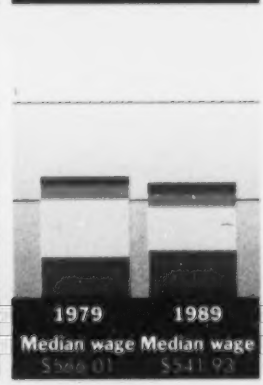

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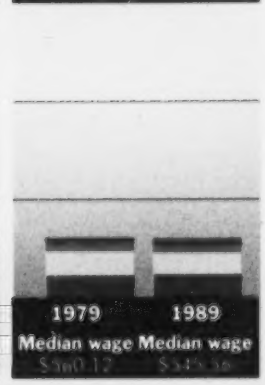


Laid-off Pennsylvania steelworkers learn refrigeration repair.

biggest industrial corporations, which generally pay the best wages and provide the best benefits, have been slashing work forces with a vengeance. The FORTUNE 500 industrial companies employed 3.7 million fewer workers last year than the top 500 firms did in 1981 (see table), a loss of about one job in four. Hardly any forecaster expects manufacturing to get back to its already diminished pre-recession employment levels.

For industrial workers who thrived on last decade's defense buildup, the peace dividend promises mainly pink slips. Robert Paulson, a consultant with McKinsey & Co. in Los Angeles, estimates that aerospace accounts for 20% of the manufacturing jobs in California. But only about 15% of those workers have easily transferable skills. Many more have arcane talents, those of aerodynamicists or composite-materials shapers, and half are employed in paperwork and support jobs—dealing with federal contract and hiring rules. Demand from nondefense employers for those talents is negligible. "They won't get jobs designing mass-transit systems or environmental technology," says Paulson. "They will wind up working in Kmart or selling real estate."

The most important dynamic behind the worsening job drought, however, is a rapid decline in service sector employment growth. Services—everything from banking to retailing to hairdressing—account for 78% of U.S. employment and have created virtually all the net new jobs of the past ten years. Now many of these businesses are grappling with the same pressures to lift productivity that manufacturers confronted. Says Morgan Stanley senior economist Stephen Roach: "As established service companies face global competition, much of it in the form of direct investment by foreign service companies in the U.S., they are starting to cut back white-collar jobs with a vengeance."

Much of the pain, Roach says, will be felt by the 18 million back-office workers in trade, finance, business services, and transportation. During the 1980s companies invested billions of dollars in computerizing these operations—the service sector equivalent of a factory's assembly line. But rather than redesign the work and eliminate positions to take advantage of that capital investment, firms kept on hiring, and thus enjoyed minimal measurable productivity gains. The coming back-office cuts will nick those making from $20,000 to $30,000, and also slice into better-paid sales jobs in the front office.

What about those at the upper end of the white-collar pay scale? Despite incessant corporate restructurings and occasional (and well-publicized) layoffs at top law offices, advertising agencies, or media companies, most in this well-educated group will fare relatively well. Because these executives, managers, and professionals tend to perform the core activities at the heart of a service business, firms can't eliminate their positions without eliminating the services they provide.

Less essential middle managers will continue to be shed, however, so the number of managers in the 1990s will grow at only half the 4% to 5% annual rate of the late 1980s. Overall, Roach estimates that the U.S. service sector will create four million fewer jobs than it would have if the hiring pace of the 1980s had been maintained.

This slowdown, coupled with the elimination of many existing service jobs, will continue to push down wages. Consider the experience of recent college graduates. While this crowd have long earned a fat premium for their degrees compared with those who merely finish high school, that's mostly because wages for the latter have been dropping. Now real salaries for the college educated are also declining—down 3.1% between 1987 and 1991, according to the Economic Policy Institute, a liberal policy research center in Washington, D.C.

Some of this is the recession, but some of it reflects structural shifts as well. New college graduates are competing with laid-off middle managers for many white-collar job openings, says professor Philip Gardner, head of research at the Collegiate Employment Research Center at Michigan State University. So the grads are taking entry-level jobs that high schoolers with some technical training once took. "There is downward pressure all over," says Gardner. Laments a placement official at a small four-year college on the East Coast: "College graduates are becoming secretaries and assistants to assistant buyers at Kmart."

Eventually, however, a lot of those well-educated or technically trained newcomers can expect to do reasonably well in the 1990s and beyond. Their relatively rare skills command pay premiums and are in demand in the fastest-growing fields, such as medicine and computers. Unfortunately, the jobs increasing fastest in percentage terms generally employ relatively few people, so even rapid growth won't create huge volumes of new job openings.

According to Labor Department data, the ten fastest-growing occupations in the U.S.—a group that includes paralegals, medical assistants, and computer repairers—will generate a total of 694,000 new jobs between 1988 and 2000. That's 36,000 *fewer* positions than the number of new full-time jobs that will be created in retail sales alone over the same period. Among the other careers that will provide the greatest number of new jobs during the 1990s, says the Labor Department, are janitors and maids (556,000), waiters (551,000), and hundreds of thousands more receptionists, hospital orderlies, and clerks.

WHAT CAN policymakers do to retune the U.S. economy and improve its ability to generate good jobs? They can start by acknowledging that there's a problem. Says Dan Lacey, publisher of *Workplace Trends*, a Cleveland newsletter that tracks staff cuts and hiring patterns: "Ever since World War II, when we started counting the number of jobs available for returning GIs, politicians have worshipped job creation." That was all right during the 1950s and 1960s, he maintains, when real

wages for virtually every worker were rising and "even lousy jobs eventually became good ones." But 20 years after wages started to drop, says Lacey, "there is still too much focus on the quantity, and not enough on the quality, of jobs that are being created."

Business leaders also need to engage in some serious attitude readjustment. Many are vocal in complaining about the mediocre quality of American high schools, arguing that their illiterate and innumerate graduates aren't productive at work and therefore can't be paid as much. All too often their solution is to quietly announce—to cheers from Wall Street—that they are shutting U.S. plants that pay workers $14 per hour to open new ones in Korea or Portugal, where production workers get less than $4 per hour. And yet the way U.S. businesses have organized their work for decades is at least a partial contributor to the downward spiral in the country's educational performance and wage levels.

Lester Thurow, dean of the business school at MIT, argues that American companies are far more likely than German and Japanese outfits to break complex operations into simple, unchallenging tasks that the dumbest production worker can handle. Because these simplified tasks demand little education or skill from workers, companies rarely offer a wage premium for a strong academic performance in high school. Researchers for the National Center on Education and the Economy found that 98% of employers don't even bother to review the academic transcripts of high schoolers, believing their course work to be irrelevant. Until that changes, says management guru Tom Peters, business executives' demands for school reform should be dismissed as "just a cop-out for their own shortcomings."

More and more innovative U.S. companies are starting to realize that rather than continue to dumb-down tasks and save money by cutting wages, they'd be better off striving to hire, train, and reward a better-prepared work force. Flexible, responsive delivery of products and services rather than mass production is the new watchword in the global economy, and only highly skilled employees can quickly master these challenging new processes.

Still, despite their growing awareness, only a handful of employers have been able to translate into action their talk about the need for better training and more worker empowerment. Jim Burge, a corporate vice president at Motorola, recently headed a study of hundreds of companies by the National Association of Manufacturers. Of this group, just 5% to 7% have made significant changes, says Burge.

Why do firms that contemplate creating a "high performance" work organization—one that combines high skill levels, high productivity, and relatively high wages—so often give up before they start? One reason is that there's no consensus, even within industries, about how best to do this.

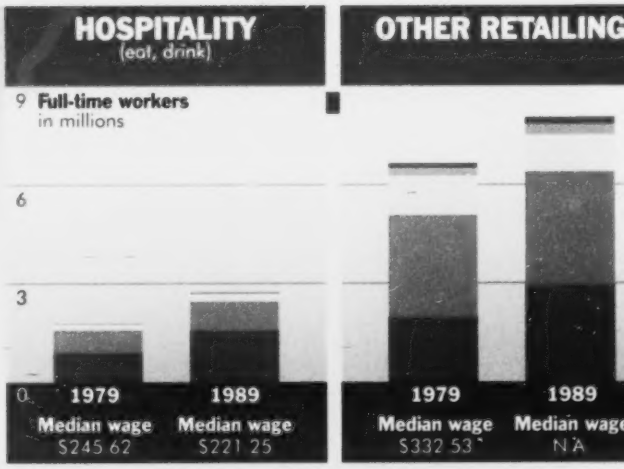
Joel Rogers, a University of Wisconsin political scientist, found that out last year when he and a colleague examined 24 of his state's metalworking companies. Some were eager to provide only narrow technical training, while others thought workers should focus on improving their broad cognitive skills. One firm that was integrating its design and manufacturing wanted to give its engineers complete control of operations; another preferred to keep control on the shop floor. Only two or three of the 24 companies that Rogers surveyed were introducing significant improvements.

The biggest problem for smaller companies, Rogers found, is that most see little advantage in shouldering the cost of worker training themselves. Big firms tend to poach experienced workers from them, and they are unable to pay enough to keep those workers on board.

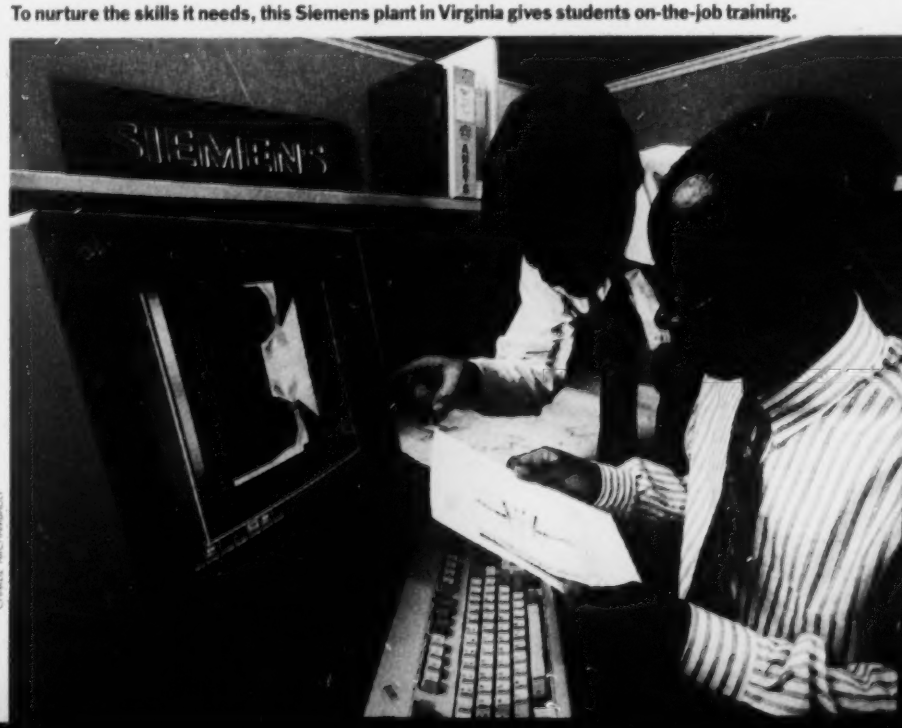
Some companies that did take the plunge, despite these difficulties, and managed to upgrade the skills of their work force have found that the rewards can come quickly. Four years ago in Newport News, Virginia, officials at a factory now owned by Siemens, a big German manufacturer, wanted to build a new automobile fuel injector that wouldn't clog up. But many of their production workers had spent years doing routine assembly work and didn't have the skills in teamwork, communications, and statistical analysis needed to run

SERVICES

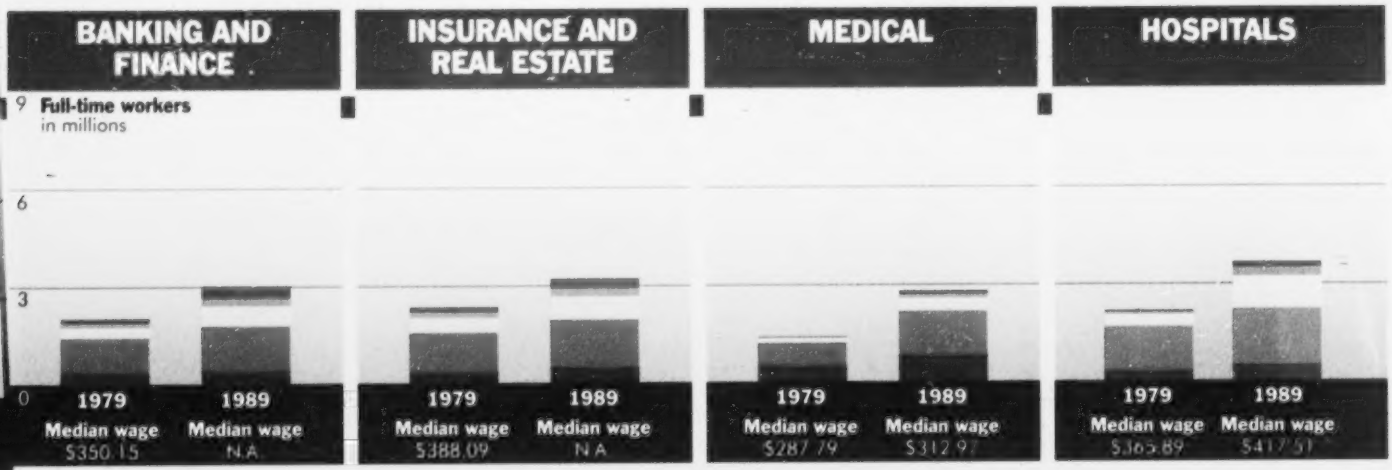
The 1980s saw an explosion in new retailing jobs in restaurants and shops, but most of them were at the bottom of the wage scale.



To nurture the skills it needs, this Siemens plant in Virginia gives students on-the-job training.



CHARLIE ARCHAMBAULT



sophisticated new machine tools and handle innovative ways of organizing work.

Siemens decided to develop those skills with help from nearby Thomas Nelson Community College. The training program it devised included a course called World-Class Manufacturing, which explained why workers needed to go through the effort of learning new skills.

THE RESULT? George Perry, vice president of one of Siemens's auto parts divisions and head of the plant, says sales of the new injector have been rising 40% a year for three years. The part is produced on machine tools that are accurate to tolerances greater than what their makers said was possible. The number of production workers has nearly doubled since 1988 to 620, and salaries, which used to hover around $10 an hour, can now climb to $14. Says Perry: "Cheap labor is available to your competitors too, so it's not a long-lived advantage. The only sustainable advantage is an adaptive, productive work force."

The spillover from this success has altered the whole approach to education in the Newport News area. Siemens and five other local scientific and manufacturing companies have teamed up with the community college to help prepare young students for high-skill jobs. Says Robert Templin, the president of Thomas Nelson: "Many high schoolers were avoiding challenging courses, explaining, 'We won't need them. We're going to work in a factory.'" That's changing. Says Perry: "Uncles and aunts who are sweating over a statistics course in the factory tell their nieces and nephews to study harder."

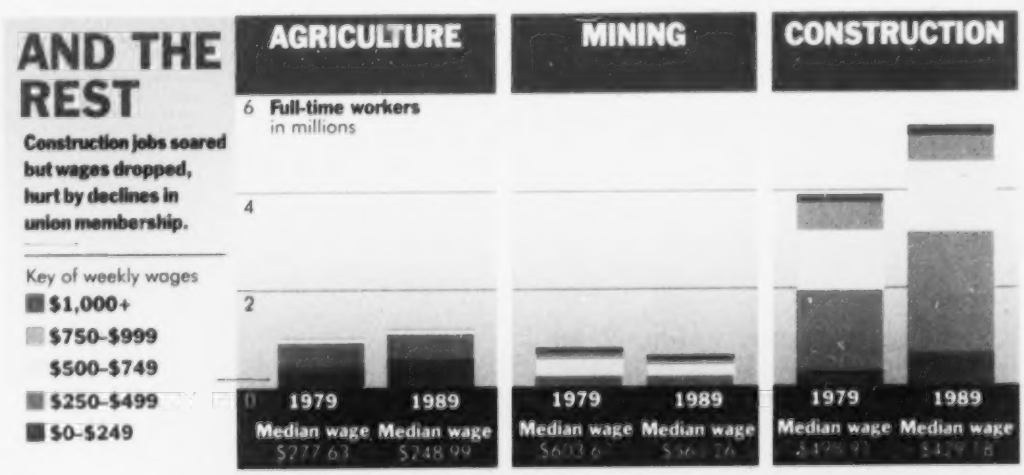
Now factory technicians even make visits to local junior high schools, and students take class trips to factories to acquire a feel for the course work and training they will need. Tenth-graders get mentor relationships with a worker in the career field they've chosen, and the company plans to give on-the-job training as early as 11th grade. Special programs in factory work, medicine, and other careers are taught at the community college. As the number of skilled workers in the region has risen, turnover at the plants has dropped, and the cost of finding new workers has been reduced.

In Huntsville, Alabama, business and community leaders have also banded together to expand the local supply of higher-wage jobs. Their focus has been not on education reform, but on boosting public awareness of the importance of exporting. In addition to creating a public relations campaign to encourage exports, they developed communications networks among firms and expanded the local airport to make the job easier. The county sponsored lectures on how to export, researched foreign markets, and showed firms how to use a fax machine to communicate abroad.

Exports from the region have risen at a rate twice as fast as the national average, says Peggy Barnard, head of the North Alabama International Trade Association. They include everything from ultrasonic devices for measuring the flow in sewer pipes to high-speed packaging equipment. The new overseas markets have increased the number of manufacturing jobs and also created a demand for international marketers, shipping experts, bankers, interpreters, and other service suppliers.

Huntsville's effort provides a useful model for other U.S. communities. As the Germans and Japanese have shown, nothing is more likely to expand higher-wage jobs than an intensified focus on exports. In the U.S. machine tool industry, which was devastated by overseas competition in the 1980s, the number of workers paid more than $52,000 a year nonetheless jumped by 116,000. One reason is that the companies that survived managed to post the biggest gains in exports of any U.S. industry during that period.

More good news: Though cutbacks and hiring freezes promise to be a way of life among the largest U.S. corporations, the U.S. economy continues to be blessed with



an abundance of small but growing firms of every variety. Many are nimble, well focused, and pay well, and happily, their numbers are expected to increase. While most of these roughly half-million fast-growing companies employ fewer than 100 employees and represent just 6% to 7% of the companies in each industry, they consistently account for about 75% of their industries' employment growth, according to David Birch, head of Cognetics, a Cambridge, Massachusetts, economic research firm.

These small outfits succeed by being creative, even in traditional businesses, and pay well to attract the talent they need. Most make far better use of new technology, communications, and marketing methods than bigger and more established companies. Says Birch: "Slice any industry, even by three-digit industry codes, and the pattern holds."

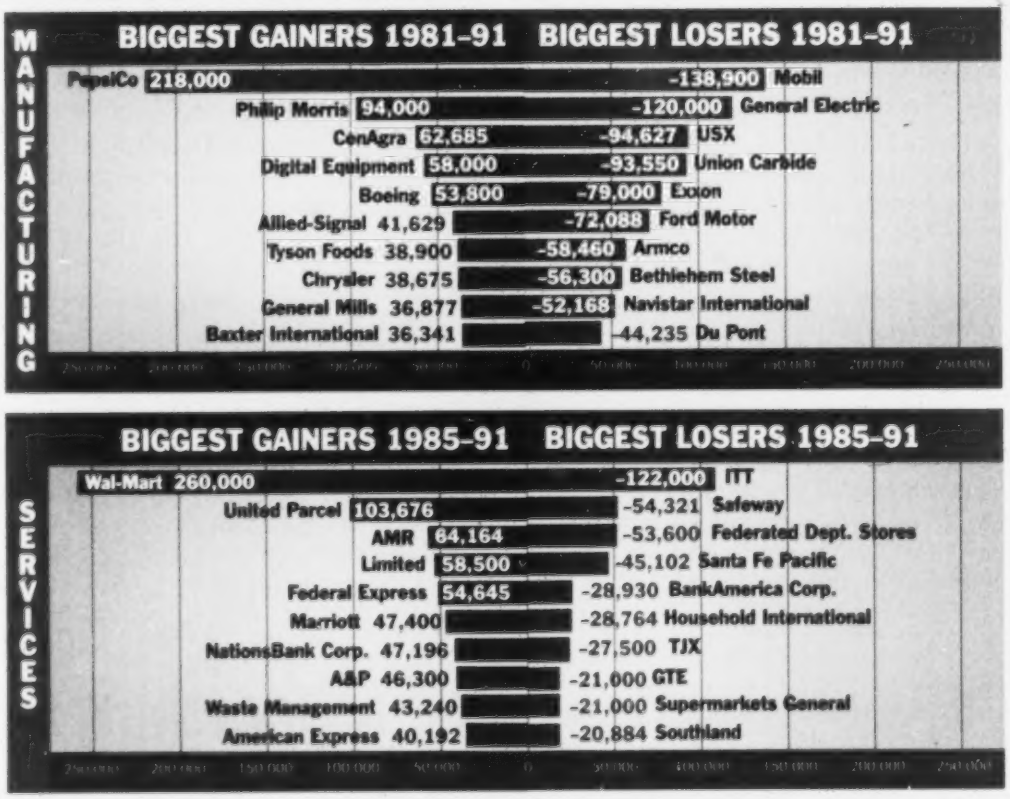
He cites the example of a fish processor near Boston who grew from $10 million in annual sales in 1980 to $78 million by automating and computerizing his traditionally labor-intensive operation. In a field where small family businesses are the norm, this fellow is now one of the biggest processors in the country, employing 130 people—and two robots. That's typical, says Birch, who also estimates that roughly two-thirds of employees in these fast-moving companies have some post-secondary education.

Unfortunately, those positive experiences remain far too rare. Right now the U.S. is still in the midst of a clumsy and incomplete transition to a more highly skilled, technically adept economy and society. Its biggest problem is that its educational apparatus and prevailing cultural attitudes about the role of education haven't caught up with the shifts. As Lawrence Mishel, a labor economist at the Economic Policy Institute, puts it, "We have a manufacturing system designed by geniuses for idiots, with an education system to match."

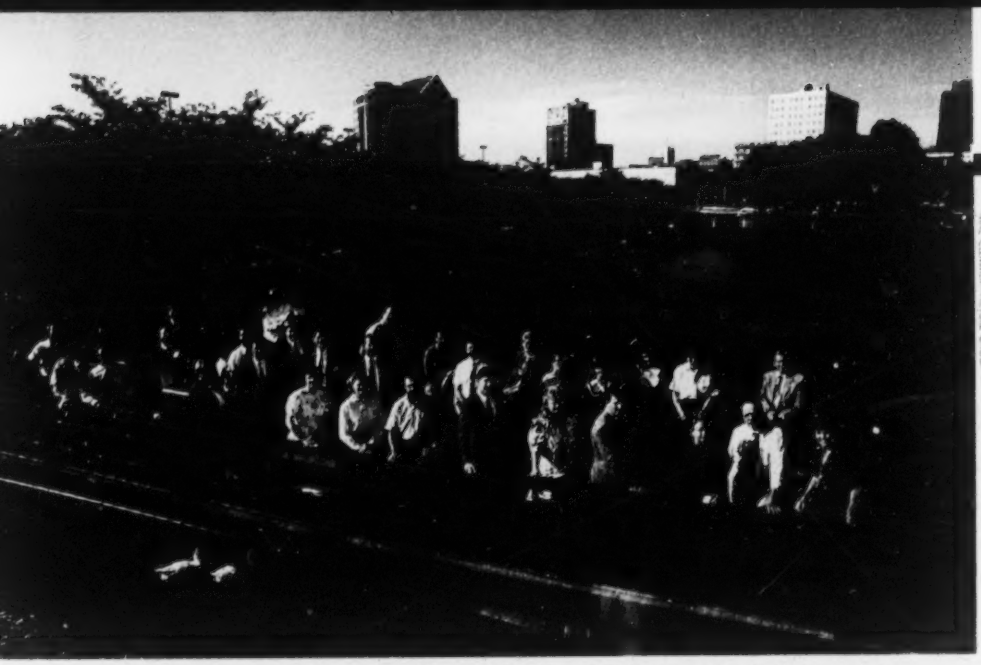
To complete the transition to a higher plane and improve the quality of the new jobs that are created, more citizens, politicians, and executives need to acknowledge that the successful economies of the late 20th century—and even more so the 21st century—require a work force in which intelligence and technical competence are dispersed more widely than is to be found now in the U.S., with its overconcentration of Ph.D.s at one end and menial workers at the other. At the same time, a nation that has long prided itself on inventiveness and ingenuity needs to acknowledge that the countries that appear to thrive in world markets put a higher premium on efficient, flexible production than on pure invention.

Signs of changing attitudes abound. College freshman are gravitating increasingly to technical careers—and with good reason. College graduates with chemical and electrical engineering degrees earn 50% to 70% more than graduates in the humanities. Community colleges are swamped with students taking technical courses. Paralegals and medical professionals command some of the highest wages of any semiprofessional. When Myra Banke, a

COMPANIES THAT CREATED AND CUT THE MOST JOBS



To qualify for these rankings, companies had to appear on either the FORTUNE 500 list, which measures manufacturers, or FORTUNE's Service 500. ITT, the biggest loser among services, began the decade as an industrial company, but shed so many jobs (and businesses) that it changed categories. Among manufacturers, the top job-cutters are mostly household names that launched fervent productivity drives. Several big acquisitions swelled Philip Morris's payroll. Most impressive were the job producers—among them, Wal-Mart, United Parcel, and PepsiCo—whose growth was mainly organic.



MIKE CLEMMER PICTURE GROUP

Huntsville, Alabama's drive to expand exports helped create high-wage jobs for these workers.

physical therapist, moved to the Atlanta area last year, she had three job offers, all paying more than $40,000 per year.

Princeton economist Alan Krueger calculates that anybody who uses a computer earns 15% more than an equally skilled coworker who does not. Robert Swain, head of a New York firm that helps laid-off executives find jobs, tells his clients that it increasingly pays to have technical skills, "like an accountant who knows computing well enough to tie two different computerized accounting systems together."

But as professor Rogers's study of the Wisconsin metalworkers and the National Association of Manufacturers survey of its members reveal, this national groping toward an increased emphasis on technical talent has yet to filter down to many frontline workers. Employers seem daunted and confused by the task.

WHAT'S MISSING is a powerful incentive system to persuade employers to train workers better and to demand more intelligence from employees further down the ranks in their organizations. MIT's Lester Thurow argues that higher minimum wages would pressure companies, particularly in the service sector, to push for more training and other productivity improvements. Says he: "Relative to average wages, minimum wages in the U.S. are far lower than in other countries." But in the short run, raising the minimum wage might backfire, further reducing employment and driving more jobs overseas.

A better solution would be to urge American companies to sponsor more industrywide training. In Germany most firms participate in elaborate apprenticeship programs for young workers, some lasting four years or more, and 60% of German youth ages 16 to 18 become apprentices. The programs are designed in collaboration with individual companies, industry councils, and labor unions. Not only do workers learn skills, but information on how to organize work better is shared among companies—and the incentive to raid individual employers who invest more in training is reduced.

In addition to encouraging voluntary industry efforts, Washington could provide tax incentives for training. Howard Rosen, executive director of the Competitiveness Policy Council, a bipartisan commission appointed by Congress and the President, points out that these could take the form either of credits for companies that participate or new levies on those that fail to invest a minimum amount.

Congress and the White House might also finally agree to pass another small incentive—making the temporary R&D tax credit a permanent one. Of all U.S. manufacturers, the industry that scored the highest percentage increase in well-paid jobs in the 1980s was chemicals, with 83%. That translated into 73,000 new workers making over $52,000. Why? Duane Dickson, a vice president with Gemini Consulting, says the industry began boosting R&D after years of coasting on old postwar inventions, and also started putting trained engineers into new factory positions. A permanent R&D credit could well encourage even more industries to go down this road.

Finally, government can avoid doing things such as imposing new trade barriers that will impede the transition to a higher-wage, higher-skilled economy. By reducing competition—and thus the imperative to push harder for gains in productivity—such policies can only backfire. True, the short-term pain of improved productivity is that more work is often done with fewer people. But in the long run, if a nation's workers continue to improve their efficiency, then the total number of good jobs will expand as customers at home and abroad clamor for more of the resulting inexpensive, high-quality goods and services.

If Washington is going to take a more active role in encouraging worker training, it would help if there were some kind of national vision of just what we should be in training *for*. Does the U.S. want to be rocket builder to the world, or trinket maker? Should it aim to design rocket and trinket factories and industrial management systems, but sell them to foreigners? Will America prosper not by making more things, but by designing wondrous communications, transportation, and environmental systems that make every ordinary thing we do easier, cheaper, and more convenient?

You can recoil at the thought of Congressmen patching together a national industrial policy and still hanker for some high-level thinking on how to channel the nation's considerable energy and talent in some coherent manner. It won't do to train millions of youngsters to become medical technicians if the nation is also planning to cut medical spending.

None of the changes required will be easy. The notion of preparing youngsters for anything but college, or steering them into narrowly defined training programs, runs counter to American ideals of unlimited opportunity and freewheeling individualism. Companies working together on training and comparing notes on optimum work organization won't sit well with a population worried that any corporate collaboration may have evil intent. And any policy changes that make it harder for companies to continue down the low-wage, low-skill path will surely bring howls from outraged business leaders who fear they cannot compete any other way.

What everybody should agree upon is that the U.S. cannot support a thriving consumer economy—or avoid an eventual increase in political and social unrest—if it continues to force the majority of its population into an ever lower standard of living. Sooner or later everyone will pay. F

HOW GEORGE BUSH CAN COME BACK

Even Republican stalwarts, like the CEOs surveyed in FORTUNE's latest poll, fault his economic leadership. To win, he needs a credible long-term growth plan—fast. ■ *by Ann Reilly Dowd*

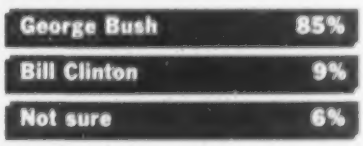
POLITICALLY, 1992 has been the year of the roller coaster. Just last summer, flush from his Gulf war victory, George Bush looked like a shoo-in for reelection. Since then, recession and un-leadership have driven his presidential approval ratings from a record 89% to a 12-year low of 29%. Businessman Ross Perot briefly eclipsed the scene with a populist cry for fundamental change, only to disappear like some political shooting star. Now Democratic nominee Bill Clinton, written off by many as unelectable because of his alleged womanizing and efforts to avoid the draft, has captured the change banner and is beating Bush 2 to 1 in the opinion polls. But don't bet on Clinton yet. In this breathtakingly up-and-down year, Bush could still come back. What he needs is a little luck, a lot of fight, and—most important—a credible strategy for improving the country's long-term economic health.

Just how crucial that last element is comes through loud and clear in a new poll of the CEOs who run America's largest corporations—the FORTUNE 500 and Service 500. The survey was taken from July 23 to July 29 and conducted exclusively for FORTUNE by the opinion research firm of Clark Martire & Bartolomeo. Of the 184 CEOs who responded, 85% say they would vote for the President if the election were held today. Only 9% back Bill Clinton. The candidates roughly split the support of the tiny band of top executives who were for Ross Perot in late May, when FORTUNE last polled them on their presidential preferences.

Compared with the average voter, the average CEO is considerably more optimistic about the economy. In July nearly eight out of ten Americans told pollsters they believed the country was seriously off on the wrong track—a level of despair deeper than during Watergate, the Iran hostage crisis, or the 1982 recession. Just 38% of the CEOs in FORTUNE's survey think things are that bad. And 85% are either very confident or somewhat confident that the economy will continue to recover over the next 12 months.

It's all the more striking, then, that even this bunch of stalwart Bush backers agrees with the disgruntled majority that the President's domestic leadership has been dreadfully inadequate. When asked to rate Bush's performance on a scale of 1 (poor) to 10 (excellent), the CEOs gave him a score of 8 on foreign policy but only a 4 on his handling of the economy. Says Automatic Data Processing CEO Josh Weston: "Bush's strength is his international influence. But he has no long-term domestic insight, vision, planning, or effectiveness."

Who the CEOs would vote for



Can Bush win in November without changing that damning and pervasive perception? Some Republicans appear to think better tactics alone will do the trick. They eagerly anticipate the return of Bush's longtime friend and adviser James Baker III, who is expected to resign as Secretary of State to coordinate and energize the White House and the campaign. Claims Republican pollster Richard Wirthlin: "Clinton's chances of stealing a victory from the President are less than-fifty-fifty if the Bush team can quickly mount a focused and disciplined campaign."

Despite the soggy economy, the Democrats' more moderate party platform, and the dynamic duo heading their challengers' ticket, the Republicans still enjoy a big advantage because of their strength in the more conservative Sunbelt and Rocky Mountain states. You can calculate that edge simply by adding up the electoral votes of the states that Bush won in 1988 by a margin of more than 10%. The total comes to 216 of the 270 votes needed to win. (And that's excluding the 17 electoral college ballots of Arkansas and Tennessee, where Bush won big last time but probably won't now, since they're the home states of Clinton and his running mate, Al Gore.) By contrast, the Democratic strongholds that Dukakis took in 1988 add up to only 107 (see map).

The basic strategy of the President's men is to shrink Clinton's lead by raising doubts about his experience, integrity, and policies, all wrapped up in the kind of aggressive, negative campaigning that sank Michael Dukakis last time round. They also hope to capitalize on any new international challenges, such as Bush's recent face-off with Saddam Hussein over weapons inspection.

But in the end, this election will hinge on one thing, and one thing only: the economy, and Bush's ability to manage it. "The negative stuff alone won't work this time," warns former drug czar and Education Secretary William Bennett. "Bush has to convince voters in his own words—not using Cyrano's voice to woo the lady—that he has the right plan and is the right guy to deliver. That requires two things he's not shown to date: the vision thing and a willingness to confront Congress, special interests, the status quo." Allegheny Ludlum CEO Robert Bozzone is even more blunt: "Why doesn't George Bush get off his duff and enunciate his domestic programs and beliefs? Why doesn't he do something major? We need leadership."

So far, Bush & Co. don't seem to get it. Voters are furious, and that anger is especially strong among this year's key constitu-

REPORTER ASSOCIATE *Suneel Ratan*

With his public approval ratings down 60 percentage points, the President—here campaigning in Jackson Hole, Wyoming—is facing a long, hard climb.

ency—suburbanites in swing states like California, Illinois, Pennsylvania, and New Jersey, a majority of whom normally vote Republican. This group was the force behind former Senator Paul Tsongas's surprise showing and, more recently, the Perot phenomenon. Says pollster Daniel Yankelovich: "Bush has been talking about the business cycle, telling people that it will run its course, and there is little he can do. But people are focused on long-term structural problems besetting the economy. Chief among them: the nation's enormous and growing debt burden, the quality of education, the cost of health care. They want an activist President who will solve those problems." Instead, Bush seems out of touch, out of ideas, out of steam. Says Yankelovich: "It drives people wild."

Taken together, Bush's recent budgets offer at least the partial outline of a long-term strategy for attacking these problems, but they've been poorly packaged and unenthusiastically sold. Says economist Larry Kudlow of Bear Stearns: "Bush and [Treasury Secretary Nicholas] Brady send up a proposal, then Bush flies off to Kennebunkport, and Brady puts on his spikes and heads to the golf course."

What policies should Bush be advocating? The economics are simple: The U.S. needs to invest and save more, and consume less. As FORTUNE has often argued, the best way to boost national savings, lower long-term interest rates, and reduce the risk of a fiscal meltdown is to stop dissaving. How? By setting the federal budget deficit on a firm downward path. America's CEOs agree. When asked in our poll what were the most important things the next President should do to improve the economy's long-term health, 72% backed pushing down the deficit—more than any other action.

The political rub is that this can't be accomplished without pain. Take the bold—and largely admirable—plan to attack the deficit that Ross Perot's advisers cobbled together over the summer. This scheme, many elements of which FORTUNE has endorsed in the past, coupled new tax credits for investment and long-term capital gains with sharp spending cuts in defense, Medicare, and farm programs. Perot's team also advocated some new taxes aimed mainly at consumption, including a 50-cent-per-gallon hike in gas taxes and less generous deductions for mortgage interest. Another revenue raiser: increasing the top individual income tax rate to 33%.

Could this pain-today-for-gain-tomorrow bromide have been sold to American voters? Said Perot strategist Hamilton Jordan shortly before the billionaire dropped

Will the economy continue to recover over the next 12 months?

Very confident	28%
Somewhat confident	57%
Not too confident	14%
Not at all confident	1%

Looking longer term, is the economy on the right track?

On the right track	47%
On the wrong track	38%
In between	11%
Not sure	4%

PHOTOGRAPH BY DIANA WALKER—TIME

out: "To 35%, yes. To 51%, no." For Bush, in particular, any talk of revenue raising would be electoral dynamite, since it would likely cost him dearly with core conservative supporters, still bitter over his broken no-new-tax pledge.

WHAT THE PRESIDENT could do, instead, is to finally announce a serious, all-out attack on government spending. His stump speech could go something like this: "ENOUGH! The U.S. taxpayer won the Cold War. Now it's time to win the global economic war by boosting U.S. competitiveness. Business spent the 1980s downsizing and restructuring. In recent years families have been climbing out of debt, often painfully. Now it's time for government to serve you better by downsizing, reducing its debt, and increasing its productivity and accountability." Says American Enterprise Institute political expert William Schneider: "Any way you cut it, smaller government and lower taxes are the Republicans' best pitch to suburban voters."

Bush could start by talking up the courageous—and so far almost unremarked upon—proposal to cap entitlement spending already in his 1992 budget. This would save $88 billion by fiscal 1996 by holding the growth of all mandatory spending, except Social Security, to the rate of inflation plus population growth.

Aggressive privatization should be another element of any comprehensive assault on spending—massive sell-offs of government buildings, loans, rural electric authorities, even military bases. Republican governors like Massachusetts's William Weld and Michigan's John Engler have downsized state governments and prospered. So could Bush.

"Any way you cut it, smaller government and lower taxes are the Republicans' best pitch to suburban voters."

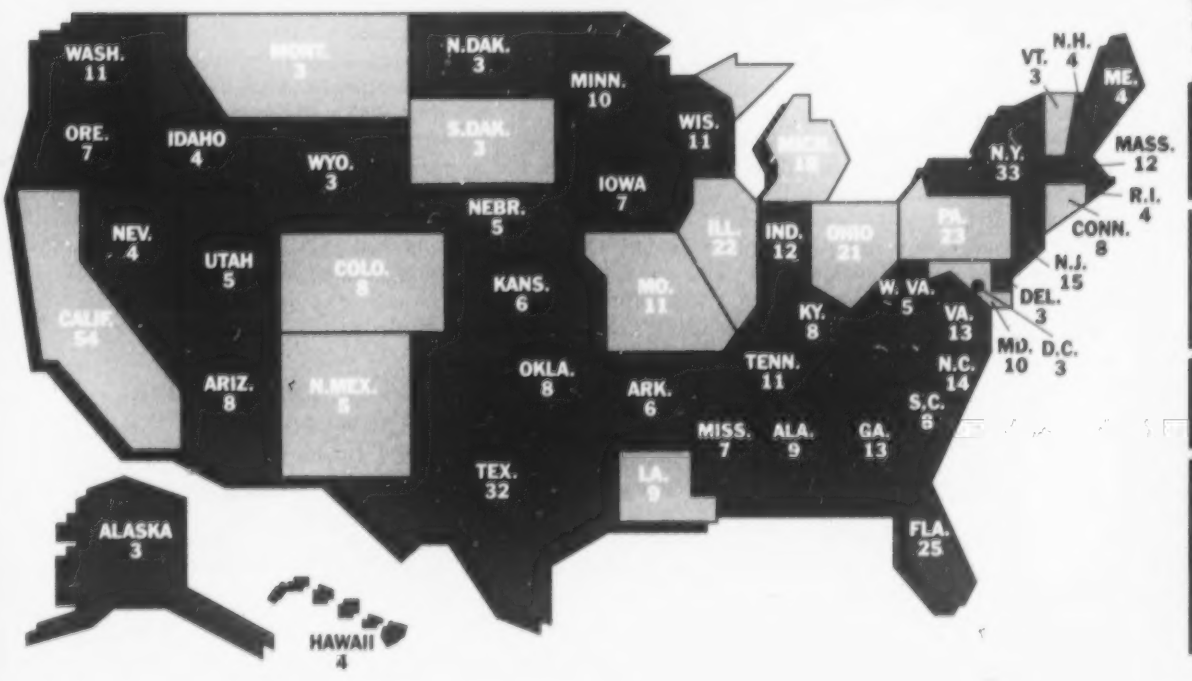
To take some of the sting out of this austerity pitch, the President could point out that during his first term, the federal government increased its public investment in education, training, infrastructure, and civilian R&D an average of 5% a year after inflation. That contrasts with cuts in investment averaging 5% a year under Ronald Reagan.

Bush would still want to back judicious increases in some public investments, such as Head Start programs, but he could contrast his limited approach to the more dramatic expansion in such spending advocated by candidate Clinton. That would win him further points with America's top CEOs, only 17% of whom, according to FORTUNE's poll, see big increases in public investment as a priority.

Inevitably, the President will also try to come back by tearing down his Democratic challenger's credentials as an effective leader. Says Bush campaign policy adviser Jim Cicconi: "Arkansas is last or close to last on almost every front—environment, job safety, income." Bush strategists also point out that while Clinton has balanced 11 budgets, the state constitution requires it—even though Clinton opposes a constitutional amendment to balance the federal budget. What's more, spending and taxes have risen dramatically during his tenure.

The Republicans believe it will be easy to fan primal fears of increased regulation under the Democrats. They plan to harp on Hillary Clinton's advocacy of children's rights to sue their parents. Al Gore's enthu-

HISTORY SAYS BUSH HAS MORE OF AN EDGE THAN POLLS SUGGEST



ELECTORAL VOTES NEEDED TO WIN 270

STRONG BUSH 216
States he won by more than 10% in 1988

BATTLEGROUND STATES 19
States Bush won by less than 10% in 1988

STRONG CLINTON 107
States Dukakis won in 1988

HOME STATES 17
Bush won them easily in 1988, but probably won't now that Clinton and Gore are local heroes*

siasm for stiff environmental and safety regulations, and the support the Democratic ticket has gotten from powerful trial lawyers who oppose Bush proposals to reduce litigation by doing things like setting limits on product liability.

GOP strategists also plan a frontal attack on Clinton's fairly detailed blueprint for economic reform. "It's a godsend," cries one GOP budgeter. "It's tax and spend all over again." Drawing upon estimates from the Urban Institute, Texas Senator Phil Gramm figures that Democratic proposals to require companies to provide health care and parental leave would cost $61.6 billion a year. Says Republican Congressman Vin Weber: "This kind of hidden tax on business is the biggest threat of a Clinton presidency."

True, many of the $140 billion in budget cuts in Clinton's plan are soft and squishy. And he will be under intense pressure from his left to spend even more. Worries Beneficial Corp. CEO Finn Caspersen: "When push comes to shove, it will be difficult for Clinton to withstand the more liberal elements of his party." It is also true that Clinton's plan, even if it's enacted intact and works as promised, offers no significant reduction in the federal deficit for four years.

BUT RIGHT NOW, Republican assaults on Clinton's budget plans don't carry much weight since Bush has offered no detailed explanation of how—or even whether—*he* proposes to slay the deficit dragon. As Bill Bennett argues, without that positive leadership on Bush's part, old-fashioned Republican fear-mongering may not do the job this time.

Would additional personnel changes in the Bush team help? Probably. So far, Bush has dismissed calls to dump Vice President Quayle, as well as Brady and Budget Director Richard Darman. His strategists are afraid of looking panicky, and the President himself remains loyal and risk-averse. But the result is a perception of paralysis.

At a minimum, replacing Brady and Darman, who it is rumored will be leaving in a second term anyway, could recharge and crystallize Bush's economic message. Promoting Housing Secretary Jack Kemp would please many GOP faithful. But bringing in dynamic governors like Weld or Engler, lawmakers like Gramm or Weber, perhaps even an energetic business leader such as financier Ted Forstmann, would send the same message: Bush is for change that works.

The President also needs to use the enormous powers of his office more effectively. In his first term he failed miserably at that. His speech after the Gulf war victory was a perfect occasion to lay out a bold domestic agenda and a timetable for achieving it, but he didn't seize the opportunity. Instead, Bush waited almost a year, until his 1992 State of the Union, to call for an underwhelming growth package. At that point he set a March deadline but did little to keep the heat on Congress. Nothing happened. Says Republican pollster Ed Goas: "When the history of the Bush's first term is written, it will be a tale of missed opportunities."

Blaming congressional Democrats for

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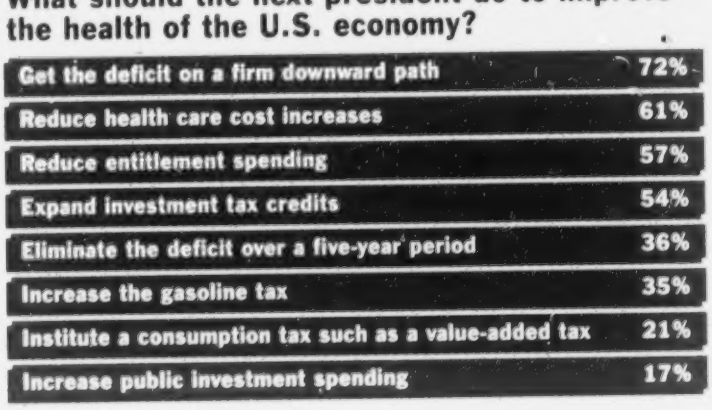
What should the next president do to improve the health of the U.S. economy?



the country's troubles isn't good enough. Between now and November 3, Bush needs to pick a few high-profile fights by vetoing appropriations bills filled with pork and demanding fiscal restraint. He might test his authority to use a line-item veto, or at least proclaim what wasteful outrages he would cut were he given the power. If he really believes the budget ought to be balanced, perhaps he ought to create a movement—and a mandate—for fiscal responsibility by asking the congressional candidates of both parties to sign a pledge to voters to achieve that balance by whatever year he deems desirable. The President should also insist more vehemently than he has that Congress enact proposed Administration investment incentives: among them, an investment tax credit, cuts in capital gains taxes, and enterprise zones.

Economist David Hale of Kemper Financial Services recommends that Bush push especially hard to advance the interests of small businesses. Says he: "In contrast to the 1980s, small businesses have failed to expand employment during the recent recovery and offset the job losses resulting from restructuring in the big firms."

One way to do that would be for Bush to go to the mat for reforms he has already proposed that would make health insurance more available and less costly to small business. Many Democrats, including Senate Finance Chairman Lloyd Bentsen of Texas, support a similar package. But congressional leaders are playing politics and delaying a vote. Bush could raise the ante and insist that if Congress doesn't act on health care before the election, he won't sign the congressional appropriations bill that funds their perks. Even if he lost that battle, he'd win.

Will Bush take the bold course? It won't be easy for this archdefender of the status quo and instinctive derider of things visionary. Still, as the President's old mentor Richard Nixon has cautioned, "You want to remember, every time you tend to write off George Bush, he makes the big play." The first real clue to the kind of campaign he will run comes in Houston, at the GOP convention. If Bush starts talking more like a leader and less like a politician, it just might signal the next big roll of coaster 1992. F

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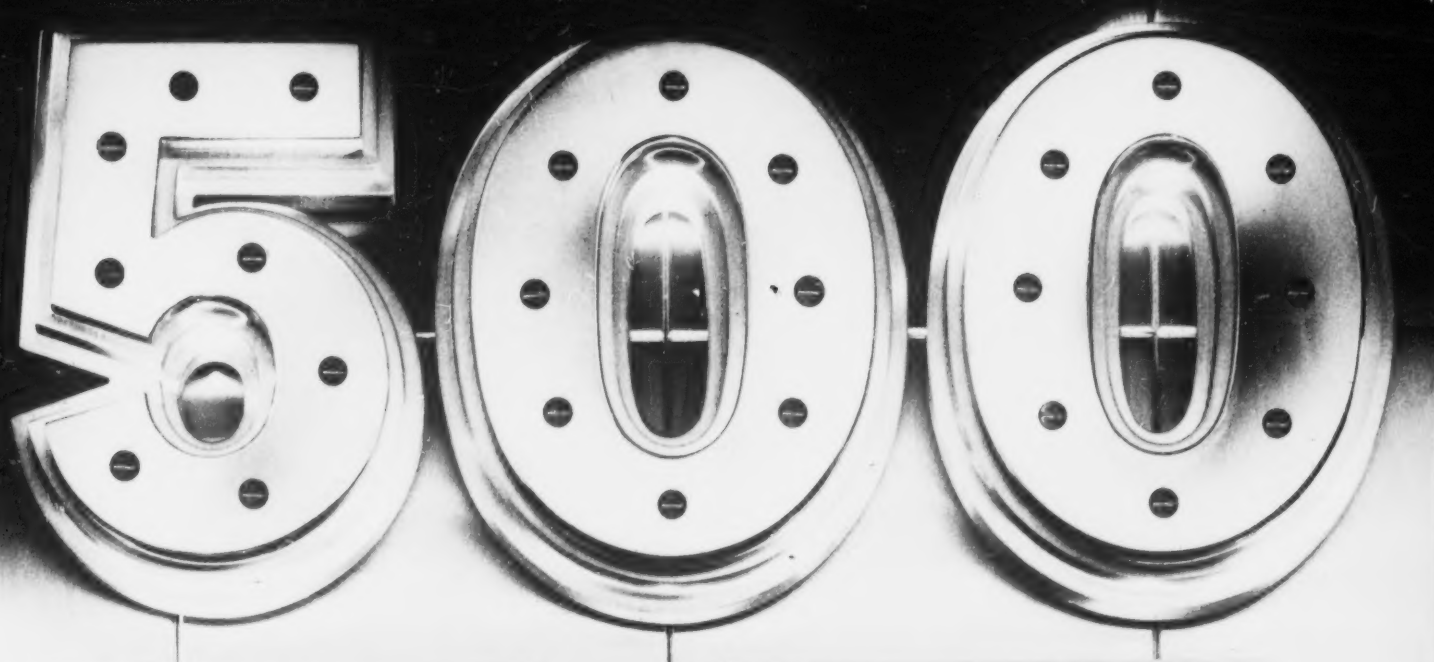


THE GLOBAL SERVICE 500
INTRODUCTION
The world's largest service companies might prefer to write off last year. Measured in dollars, profits fell 15.5%. The declines were largest for commercial banks (34%) and diversified service companies (21%).
PAGE 208

THE GLOBAL SERVICE 500
LISTINGS
We rank the service companies in eight lines of business, from diversified services and life insurance to retailing and utilities. Definitions, explanations, and arrivals and departures are on page 225.
PAGE 211

THE GLOBAL SERVICE 500 RANKED BY
PERFORMANCE
If you're looking for good news, here's where to find it. This section ranks the top 50 companies according to profits, increases in sales and profits, returns on sales and assets, and number of employees.
PAGE 227

THE GLOBAL SERVICE 500 WITHIN
COUNTRIES
The U.S. has the most companies, with 139. Japan is No. 2, with 113. Germany, Britain, and France follow. We list companies alphabetically within each country and give the headquarters city and phone number.
PAGE 234

INDEX TO ALL GLOBAL SERVICE 500 COMPANIES.....242

THE GLOBAL SERVICE **500** THE WORLD'S LARGEST SERVICE CORPORATIONS

IT WAS A VERY BAD YEAR

Lots of pain and not much gain. That about sums up 1991 for the world's 500 largest service companies. Total profits fell 15.5%. Fifty-two companies recorded losses, vs. 41 the year before. Lufthansa, the German flag carrier, lost money for the only time since 1973, the year of the Arab oil embargo. In absolute terms, its loss, caused mainly by the higher fuel costs and the slowdown in travel associated with the Gulf war, was not that big—$251 million. But in percentage terms it was far and away the largest profit decline of any company on the Global Service 500—an astounding 3,754%. Another German transportation company, railroader Deutsche Bundesbahn, had the dubious distinction of losing the most money—$3.2 billion. Homefed, a U.S. savings bank, came in second, with a loss of $808 million. Collectively, the 50 companies on the transportation list lost $1.6 billion, reflecting the baleful effects of the Gulf war.

FORTUNE's list examines the world's top service companies in eight different categories: diversified services, commercial banking, diversified financial services, savings banking, life insurance, retailing, transportation, and utilities. In each group companies are ranked by sales/revenues or assets, profits, and stockholders' equity. To be

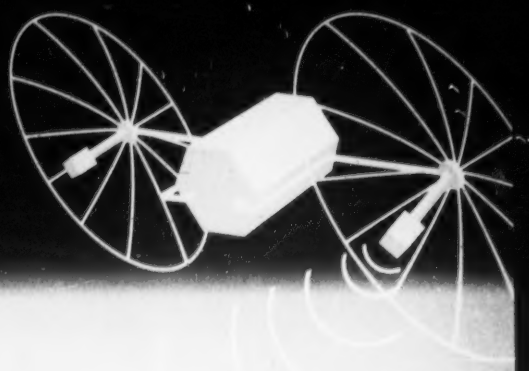
THE 500's RECORD

	1991	VS. 1990
SALES/REVENUES[1]		
Billions	$3,937.7	$3,706.1
% change	6.2%	N.A.[3]
PROFITS[2]		
Billions	$126.0	$149.2
% change	(15.5%)	N.A.

[1] Commercial banks, savings institutions, and life insurance companies are not included. [2] Life insurance companies are not included. [3] Because this is FORTUNE's second Global Service 500 list, the comparison with 1989 is not available.

LEADERS AND LAGGARDS: THE 500's BIGGEST

SALES/REVENUES	GLOBAL SERVICE 500 RANK	Billions
C. Itoh Japan	S-1	$157.0
Sumitomo Japan	S-2	$150.8
Marubeni Japan	S-3	$140.7



PROFITS FOR THE GLOBAL SERVICE 500

SERVICE CATEGORY Biggest company	1991 $ millions	% CHANGE from 1990	RANK KEY	LIST PAGE
100 DIVERSIFIED SERVICE COMPANIES C. Itoh	$17,337 $91	(21%) (59%)	S	211
100 COMMERCIAL BANKING COMPANIES Dai-Ichi Kangyo Bank	$40,488 $624	(34%) (3%)	B	213
50 DIVERSIFIED FINANCIAL COMPANIES ING Group	$20,721 $842	3% —	F	215
50 SAVINGS INSTITUTIONS Abbey National	$4,594 $732	7% 9%	I	218
50 LIFE INSURANCE COMPANIES* Nippon Life	$48,573 $4,949	(13%) (20%)	L	219
50 RETAILING COMPANIES Sears Roebuck	$13,296 $1,279	7% 42%	R	220
50 TRANSPORTATION COMPANIES SNCF	($1,643) $1	— (63%)	T	221
50 UTILITIES Electricité de France	$31,245 $245	1% 898%	U	224

*Net income based on statutory accounting

MONEY MAKERS

	GLOBAL SERVICE 500 RANK	Billions
BT Britain	U-10	$3.5
Trygg-Hansa SPP Sweden	F-23	$2.4
Teléfonos de México Mexico	U-44	$2.3

MONEY LOSERS

	GLOBAL SERVICE 500 RANK	Billions
Deutsche Bundesbahn Germany	T-3	($3.2)
Homefed Corp. U.S.	I-31	($0.8)
Canadian Pacific Canada	S-42	($0.8)

PROFIT INCREASES

	GLOBAL SERVICE 500 RANK	Percent
Provigo Canada	S-77	6,943%
Skandin. Enskilda Banken Sweden	B-74	1,597%
Swedbank Sweden	B-87	1,577%

PROFIT DECREASES

	GLOBAL SERVICE 500 RANK	Percent
Lufthansa Germany	T-11	(3,754%)
Schweiz. Bundesbahnen Switzerland	T-38	(1,037%)
Chori Japan	S-79	(814%)

For the 500 by performance, see page 227.

THE GLOBAL SERVICE 500

THE 500 BY COUNTRY

NUMBER OF COMPANIES ON LIST

For the 500 by country, see page 234.

as up-to-date as possible, we use figures for fiscal years ending as late as March 1992 and compare them with the figures for the same period from a year earlier.

The comparisons are often dramatic—and bleak. Profits fell 21% at the 100 diversified service companies; altogether, 56 reported declining earnings, including the 13 largest. Profits were off 59% at C. Itoh, the largest company on the diversified service list, and 80.9% at AT&T (No.7), the biggest U.S. company. Commercial banks were hit even harder, with profits dipping 34%; 47 of the 100 banks had declining earnings. Two U.S. banks had the biggest losses, mostly a result of bad commercial real estate loans. Citicorp, the leading U.S. bank, lost $457 million, and Security Pacific Corp. lost $774.5 million.

Was there *any* good news, you ask. Well, a little. Retailers generally did well. Despite a sluggish U.S. economy, profits rose 42% at Sears Roebuck, the largest company on the retailing list, and earnings for the group were up 7%. Profits also climbed 7% at the savings institutions and 1% at the utilities. BT, the British phone company, made the most money of any company on the Global Service 500—$3.5 billion. Another utility, Teléfonos de México, was third, with $2.3 billion. All in all, however, the world's biggest service companies must be thinking much like Scarlett O'Hara: that tomorrow will be a better day.

—**Thomas J. Martin and Kevin S. Moran**

THE HIGHEST RETURNS ON . . .

SALES/REVENUES

	GLOBAL SERVICE 500 RANK	
Teléfonos de México Mexico	U-44	**43%**
Trygg-Hansa SPP Sweden	F-23	**35%**
IMI Italy	F-27	**26%**

ASSETS

	GLOBAL SERVICE 500 RANK	
Teléfonos de México Mexico	U-44	**19%**
Schlumberger Netherlands Antilles	S-70	**12%**
Albertson's U.S.	R-35	**12%**

Research Associate: Cindy Kano

THE 100 LARGEST DIVERSIFIED SERVICE COMPANIES

1991	1990	Companies ranked by sales (Major industry)		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	1	**C. ITOH & CO.*** (trading)	JAPAN	**136,967.5**	2.2	**91.1**	47	(59.2)	**62,309.7**	5	**3,974.9**	15
2	3	**SUMITOMO*** (trading)	JAPAN	**150,813.8**	5.3	**274.2**	25	17.4	**46,176.6**	7	**5,288.9**	10
3	5	**MARUBENI** (trading)	JAPAN	**140,674.7**	0.7	**84.4**	49	(65.0)	**66,059.9**	3	**3,575.7**	21
4	4	**MITSUBISHI** (trading)	JAPAN	**136,267.6**	4.8	**395.7**	15	14.4	**77,206.3**	2	**5,474.8**	8
5	2	**MITSUI & CO.*** (trading)	JAPAN	**133,847.7**	(11.0)	**202.5**	31	(30.2)	**64,000.8**	4	**4,678.2**	11
6	6	**NISSHO IWAI** (trading)	JAPAN	**86,446.8**	12.1	**71.5**	55	12.8	**37,109.3**	9	**1,754.8**	45
7	12	**AMERICAN TELEPHONE & TELEGRAPH** (telecomm.)	U.S.	**63,314.0**	68.9	**522.0**	11	80.9	**53,355.0**	6	**16,228.0**	2
8	7	**TOMEN** (trading)	JAPAN	**60,166.1**	13.0	**40.7**	69	20.3	**17,851.2**	21	**884.8**	62
9	8	**NICHIMEN** (trading)	JAPAN	**49,867.2**	5.5	**57.1**	60	5.8	**18,378.0**	20	**1,074.6**	52
10	11	**CARGILL*** (commodity sales)	U.S.	**49,148.0**	19.9	**350.8**	20	(5.7)	**13,909.0**	26	**3,919.0**	16
11	9	**NIPPON TELEGRAPH & TELEPHONE** (telecomm.)	JAPAN	**48,206.2**	8.3	**1,431.0**	1	14.2	**86,251.7**	1	**32,031.8**	1
12	10	**KANEMATSU** (trading)	JAPAN	**46,596.5**	6.8	**52.9**	62	32.6	**12,722.7**	27	**795.7**	66
13	13	**VEBA** (trading)	GERMANY	**34,510.5**	5.0	**660.6**	5	11.7	**31,723.6**	12	**9,069.5**	4
14	14	**RWE GROUP** (energy)	GERMANY	**27,722.8**	27.0	**542.2**	10	22.9	**28,932.8**	13	**3,756.6**	19
15	16	**CIE GENERALE DES EAUX** (construction)	FRANCE	**23,925.9**	52.9	**463.4**	13	37.7	**32,725.4**	11	**2,959.6**	22
16	18	**SHIMIZU** (eng. & constr.)	JAPAN	**17,705.5**	22.7	**259.2**	27	23.5	**24,029.8**	16	**2,473.0**	33
17	15	**BCE** (telecomm.)	CANADA	**17,340.7**	10.0	**1,159.0**	2	17.8	**39,543.2**	8	**10,346.9**	3
18	19	**KAJIMA** (eng. & constr.)	JAPAN	**16,782.3**	22.9	**449.5**	14	40.0	**23,761.6**	17	**2,885.8**	24
19	17	**TOYOTA TSUSHO** (trading)	JAPAN	**16,655.3**	10.7	**58.2**	59	3.6	**7,032.7**	48	**965.3**	58
20	20	**TAISEI** (construction)	JAPAN	**15,421.5**	15.0	**298.7**	24	30.7	**23,509.7**	18	**2,698.5**	27
21	21	**ENRON** (fuels)	U.S.	**13,522.1**	2.4	**241.8**	28	19.6	**10,071.7**	37	**1,929.2**	39
22	22	**KAWASHO** (trading)	JAPAN	**13,158.9**	4.0	**28.9**	72	35.4	**6,817.5**	50	**363.3**	85
23	23	**FLEMING** (wholesale)	U.S.	**12,901.6**	8.1	**63.0**	58	35.2	**2,955.8**	79	**956.9**	59
24	40	**HYUNDAI** (trading)	SOUTH KOREA	**12,757.1**	42.4	**12.3**	80	32.8	**378.1**	99	**86.2**	96
25	28	**TAKENAKA*** (construction)	JAPAN	**12,270.6**	13.9	**344.5**	21	16.2	**15,161.6**	25	**1,831.6**	43
26	25	**TIME WARNER** (entertainment)	U.S.	**12,021.0**	4.4	**(99.0)**	96	—	**24,889.0**	15	**8,498.0**	5
27	26	**SINOCHEM** (trading)	CHINA	**11,827.0**	3.5	**125.7**	41	(32.5)	**3,789.6**	74	**882.6**	64
28	33	**OBAYASHI** (eng. & constr.)	JAPAN	**11,711.7**	20.4	**175.3**	33	9.6	**17,564.8**	23	**2,008.0**	38
29	30	**BOUYGUES** (eng. & constr.)	FRANCE	**11,410.7**	9.5	**147.5**	37	28.3	**11,993.8**	31	**1,071.0**	53
30	27	**KYODO OIL*** (oil marketing)	JAPAN	**10,862.4**	(1.1)	**81.6**	51	46.8	**4,476.6**	71	**413.6**	82
31	29	**NITTETSU SHOJI** (transportation)	JAPAN	**10,719.7**	1.1	**(91.3)**	95	(581.3)	**8,851.2**	41	**83.3**	97
32	24	**SUPER VALU STORES** (wholesale)	U.S.	**10,670.7**	(8.3)	**194.4**	32	25.3	**2,484.3**	82	**1,031.0**	55
33	31	**KOOPERATIVA FÖRBUNDET** (wholesale)	SWEDEN	**10,506.2**	3.8	**(40.6)**	91	(155.8)	**5,860.7**	60	**853.4**	66
34	38	**MITSUI FUDOSAN*** (construction)	JAPAN	**10,410.1**	15.2	**231.2**	29	(20.5)	**27,260.8**	14	**4,423.9**	12
35	35	**FRANZ HANIEL** (wholesale)	GERMANY	**10,353.8**	10.1	**121.4**	43	(53.0)	**4,541.6**	70	**793.8**	69
36	42	**MCKESSON** (wholesale)	U.S.	**10,312.6**	22.5	**(78.2)**	93	(177.7)	**2,756.9**	81	**554.5**	78
37	32	**KUMAGAI GUMI** (construction)	JAPAN	**9,763.3**	(1.5)	**10.9**	82	(85.9)	**16,155.8**	24	**2,608.7**	30
38	34	**DENTSU*** (advertising)	JAPAN	**9,659.9**	0.3	**11.9**	81	(91.4)	**4,208.3**	73	**994.5**	57
39	36	**GEORGE WESTON** (food)	CANADA	**9,392.4**	0.9	**80.2**	52	(25.2)	**3,312.9**	77	**1,147.3**	51
40	51	**THYSSEN HANDELSUNION*** (trading)	GERMANY	**9,375.5**	23.7	**10.3**	83	(59.8)	**3,314.7**	76	**217.8**	92
41	37	**LONRHO** (trading)	BRITAIN	**8,917.9**	(4.0)	**(18.1)****	90	(107.2)	**6,431.6**	54	**2,331.9**	34
42	39	**CANADIAN PACIFIC** (transportation)	CANADA	**8,889.4**	1.3	**(796.9)**	98	(361.5)	**17,812.0**	22	**5,808.9**	7
43	43	**SPRINT** (telecomm.)	U.S.	**8,779.7**	5.2	**367.5**	17	19.0	**10,463.8**	36	**2,521.7**	32
44	44	**MARRIOTT** (hotels)	U.S.	**8,729.0**	6.2	**82.0**	50	74.5	**6,400.0**	55	**679.0**	71
45	48	**SEKISUI HOUSE** (homebuilder)	JAPAN	**8,577.0**	10.1	**355.8**	18	16.9	**10,976.7**	34	**4,404.2**	13
46	41	**SHV HOLDINGS** (trading)	NETHERLANDS	**8,500.0**	—	**N.A.**		—	**N.A.**		**N.A.**	
47	49	**MCI COMMUNICATIONS** (telecomm.)	U.S.	**8,439.0**	9.6	**551.0**	8	84.3	**8,834.0**	42	**2,959.0**	23
48	50	**SYSCO** (wholesale)	U.S.	**8,149.7**	7.4	**153.8**	36	16.1	**2,160.1**	86	**918.6**	60
49	65	**WASTE MANAGEMENT** (waste)	U.S.	**7,606.7**	25.1	**606.3**	7	(11.5)	**12,572.3**	28	**4,133.1**	14
50	55	**ICA HANDLARNAS** (wholesale)	SWEDEN	**7,386.1**	4.3	**(10.1)**	89	(125.2)	**2,781.1**	80	**333.4**	87

SERVICE

N.A. Not available.
● Not on last year's list.
* Government owned.
† FORTUNE estimate.
** Reflects an extraordinary credit of at least 10%; see the explanation of "profits" and "earnings per share" on page 225.

Sales include all operating revenues, other income, and revenues from discontinued operations when published. Sales include consolidated subsidiaries, but they do not include excise taxes. Figures are for the fiscal year ended December 31, 1991, unless otherwise noted. Companies on the list must have derived more than 50% of their revenues from nonmanufacturing and nonmining businesses. Excluded but eligible for the lists that follow are companies deriving more than 50% of revenues solely from banking, life insurance, finance, savings, retail, transportation, or utilities.

CONTINUED

THE 100 LARGEST DIVERSIFIED SERVICE COMPANIES

1991	1990	Companies ranked by sales (Major industry)		SALES $ millions	% change from 1990	PROFITS $ millions	Rank	% change from 1990	ASSETS $ millions	Rank	STOCKHOLDERS' EQUITY $ millions	Rank
51	60	**EDEKA ZENTRALE** (wholesale)	GERMANY	7,329.7	14.7	19.2	78	28.4	1,223.5	95	125.4	94
52	66	**JARDINE MATHESON** (trading)	HONG KONG	7,284.2	20.7	380.7	16	68.2	7,247.5	46	1,866.5	42
53	91	**IRITECNA** [1] (eng. & constr.)	ITALY	7,251.4	48.2	(130.7)**	91	223.3	36,427.4	10	2,635.4	28
54	64	**ELECTRONIC DATA SYSTEMS** (computing)	U.S.	7,099.0	6.2	547.5	9	10.2	5,703.2	62	2,610.3	29
55	56	**HALLIBURTON** (eng.,constr.)	U.S.	7,081.1	1.8	26.6	73	86.5	5,017.2	66	2,164.6	35
56	45	**KESKO** (food)	FINLAND	7,037.4	11.7	34.3	71	61.3	2,311.4	84	1,788.5	44
57	71	**DAIWA HOUSE INDUSTRY** (homebuilder)	JAPAN	6,819.8	16.0	303.0	23	4.3	8,760.4	44	2,700.5	26
58	53	**FLUOR** (eng.,constr.)	U.S.	6,789.4	9.3	160.8	35	9.5	2,421.4	83	1,020.0	56
59	52	**BASS** (leisure)	BRITAIN	6,754.9	10.7	818.1	3	2.7	11,207.5	33	6,345.7	6
60	78	**TOSHOKU** [2] (trading)	JAPAN	6,705.4	22.1	14.0	79	24.5	6,041.8	58	428.1	81
61	58	**LADBROKE GROUP** (hotels)	BRITAIN	6,694.4	1.3	271.6	26	29.4	9,316.0	39	5,323.5	9
62	57	**PACIFIC ENTERPRISES** (natural gas)	U.S.	6,668.0	3.9	(88.0)	94	—	6,701.0	52	1,699.0	46
63	54	**HANWA** (trading)	JAPAN	6,539.0	8.2	44.3	66	71.6	20,794.6	19	2,867.6	25
64	63	**KLÖCKNER** (trading)	GERMANY	6,492.1	5.7	46.4**	64	9.5	2,287.3	85	542.9	79
65	77	**FUJITA** [3] (eng. & constr.)	JAPAN	6,461.4	16.1	128.0	40	13.6	10,640.3	35	1,525.4	48
66	67	**PINAULT** (distribution)	FRANCE	6,437.8	7.6	89.2**	48	55.2	11,281.4	32	861.8	65
67	72	**INCHCAPE** (trading)	BRITAIN	6,429.3	9.4	213.3	30	23.8	3,683.7	75	884.5	63
68	●	**POLIET** (trading)	FRANCE	6,368.5	77.8	161.2**	34	22.8	9,216.9	40	1,888.5	41
69	69	**WALT DISNEY** (theme parks)	U.S.	6,301.8	6.4	636.6	6	22.7	9,428.5	38	3,871.3	17
70	80	**SCHLUMBERGER** (engineering)	NETHERLANDS ANTILLES	6,262.2	15.2	815.7	4	43.0	6,853.5	49	3,852.9	18
71	62	**PARI MUTUEL URBAIN** (pari-mutuel)	FRANCE	6,141.4	1.1	N.A.			389.7	98	N.A.	
72	90	**HUMANA** [4] (hospitals)	U.S.	5,928.0	20.6	355.0	19	14.6	4,427.0	72	2,009.0	37
73	84	**TODA** [5] (construction)	JAPAN	5,925.8	12.3	125.0	42	8.3	6,794.2	51	1,038.3	54
74	86	**BOOKER** (distribution)	BRITAIN	5,816.2	11.3	134.9	28	27.1	2,153.2	87	339.8	86
75	74	**WETTERAU** (wholesale)	U.S.	5,814.0	0.8	51.7	63	1.1	1,207.6	96	266.5	89
76	73	**TRAFALGAR HOUSE** (eng. & constr.)	BRITAIN	5,795.6	1.0	79.5	53	30.2	5,548.6	63	1,234.5	50
77	76	**PROVIGO** (wholesale)	CANADA	5,750.2	2.7	42.3	67	6,942.9	1,284.5	94	289.7	88
78	100	**HYUNDAI ENGINEERING & CONSTR.** (eng.,constr.)	S. KOREA	5,747.5	25.7	92.8	46	24.4	5,978.3	59	909.1	61
79	82	**CHORI** (trading)	JAPAN	5,715.6	5.9	(46.6)	92	814.1	3,265.0	78	104.0	95
80	59	**TARMAC** (construction)	BRITAIN	5,703.1	(13.6)	22.8	74	(91.1)	5,307.8	64	2,581.8	31
81	70	**HITACHI SALES** (marketing)	JAPAN	5,679.3	3.6	0.3	87	-99.1	2,133.5	88	649.6	74
82	68	**ITOMAN & CO.** (trading)	JAPAN	5,576.0	6.1	132.8	39	—	7,827.8	45	669.7	72
83	61	**SKANSKA** (eng. & constr.)	SWEDEN	5,550.0	11.7	114.3	45	56.3	8,816.6	43	1,912.0	40
84	87	**HAZAMA** (eng. & constr.)	JAPAN	5,532.4	6.8	6.8	84	90.1	7,082.4	47	736.8	70
85	79	**CAPITAL CITIES/ABC** (broadcasting)	U.S.	5,480.8	0.0	343.5	22	(28.1)	6,695.7	53	3,654.8	20
86	88	**DAIKYO** [1] (homebuilder)	JAPAN	5,397.5	6.1	54.4	61	55.2	12,284.6	29	1,649.1	47
87	95	**NISSEI SANGYO** (trading)	JAPAN	5,218.7	8.1	44.8	65	3.8	1,912.1	92	598.6	76
88	81	**AXEL JOHNSON** [1] (trading)	SWEDEN	5,189.2	4.1	21.6	75	105.1	2,022.5	89	222.3	91
89	83	**RYDER SYSTEM** (truck rental)	U.S.	5,061.1	4.2	14.0	78	67.2	5,080.1	65	1,387.7	49
90	46	**AMERICAN FINANCIAL** (casualty ins.)	U.S.	5,015.3	(36.4)	72.3	54	225.2	12,057.3	30	261.7	90
91	97	**HOSPITAL CORP. OF AMERICA** (hospitals)	U.S.	5,011.8	7.4	(5.3)	88	(108.6)	6,302.2	56	653.9	73
92	●	**TOKYU CONSTRUCTION** (construction)	JAPAN	4,906.4	20.2	34.3	70	31.6	5,764.5	61	607.9	75
93	98	**ALCO STANDARD** [6] (wholesale)	U.S.	4,894.6	6.3	117.6	44	10.7	2,020.6	90	821.2	67
94	●	**LUCKY-GOLDSTAR INTL.** (trading)	SOUTH KOREA	4,843.5	15.3	5.3	86	18.7	1,027.5	97	207.7	93
95	●	**BERGEN BRUNSWIG** [7] (wholesale)	U.S.	4,838.3	8.9	64.1	57	(2.9)	1,322.3	93	455.2	80
96	94	**SAE** (eng. & constr.)	FRANCE	4,833.9	0.6	5.4	85	88.4	4,973.2	67	402.1	83
97	99	**ARA GROUP** [8] (food service)	U.S.	4,774.4	3.9	64.2	56	23.9	2,002.5	91	58.3	98
98	89	**PHILIPP HOLZMANN** (eng. & constr.)	GERMANY	4,772.5	3.7	19.0	77	5.5	4,738.4	69	592.5	77
99	●	**GTM-ENTREPOSE** (eng. & constr.)	FRANCE	4,770.2	23.1	41.4**	68	44.9	6,099.5	57	387.3	84
100	93	**DUN & BRADSTREET** (info. services)	U.S.	4,685.4	(3.7)	508.5	12	0.1	4,777.4	68	2,161.1	36
TOTALS				1,895,138.3		17,337.0			1,339,727.8		241,539.6	

[1] Figures are for fiscal year ended March 31, 1992
[2] Company merged with NCR on September 19, 1991
[3] Figures are for fiscal year ended May 31, 1991
[4] Figures are for fiscal year ended June 30, 1991
[5] Figures are unconsolidated
[6] Figures are for fiscal year ended February 28, 1992
[7] Name changed from Mitsui Real Estate Development
[8] Figures are for fiscal year ended September 30, 1991
Name changed from United Telecommunications
Figures are for fiscal year ended January 31, 1992
Name changed from Italstat
Figures are for fiscal year ended October 31, 1991
Figures are for fiscal year ended August 31, 1991

THE 100 LARGEST COMMERCIAL BANKING COMPANIES

1991	1990	Companies ranked by assets		ASSETS $ millions	ASSETS % change from 1990	DEPOSITS $ millions	DEPOSITS Rank	LOANS $ millions	LOANS Rank	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	1	DAI-ICHI KANGYO BANK	JAPAN	475,831.4	3.7	374,631.7	1	280,889.8	2	624.3	24	3.3	14,942.7	3
2	2	SUMITOMO BANK	JAPAN	464,113.7	4.0	367,266.7	2	270,624.3	3	874.5	9	14.3	16,925.8	2
3	3	FUJI BANK	JAPAN	455,357.6	4.2	352,896.8	5	259,733.0	5	690.7	20	3.0	14,703.3	4
4	5	SAKURA BANK	JAPAN	448,291.0	2.9	360,389.1	3	289,577.5	1	603.9	27	0.4	12,770.7	9
5	4	SANWA BANK	JAPAN	445,027.2	1.9	357,150.9	4	268,514.2	4	800.5	14	0.3	14,550.3	5
6	6	MITSUBISHI BANK	JAPAN	432,092.9	2.1	349,294.6	6	253,198.3	6	462.7	38	27.4	13,292.3	6
7	7	INDUSTRIAL BANK OF JAPAN	JAPAN	333,321.5	4.0	254,553.6	9	193,074.2	11	438.1	40	5.8	10,375.0	13
8	14	NORINCHUKIN BANK	JAPAN	311,033.9	23.1	261,530.4	8	130,412.3	22	304.0	50	6.7	2,049.9	89
9	8	CREDIT AGRICOLE	FRANCE	306,316.4	0.5	211,639.0	13	237,293.5	7	874.6	8	1.4	17,551.6	1
10	10	CREDIT LYONNAIS	FRANCE	305,450.4	6.5	125,088.4	35	149,792.9	17	560.7	30	(17.6)	13,062.0	8
11	12	DEUTSCHE BANK	GERMANY	295,446.8	10.5	265,328.0	7	235,406.9	8	834.5	12	31.7	12,450.9	10
12	9	BANQUE NATIONALE DE PARIS	FRANCE	275,079.7	5.6	132,682.6	34	154,285.1	15	606.8**	25	104.4	10,330.3	15
13	11	TOKAI BANK	JAPAN	270,974.7	0.5	211,663.6	12	160,622.7	12	382.0	43	23.7	8,224.7	22
14	16	MITSUBISHI TRUST & BANKING	JAPAN	261,561.5	5.6	221,252.2	10	123,065.2	25	217.1	61	35.7	6,067.9	38
15	13	BARCLAYS BANK	BRITAIN	257,709.5	(0.9)	210,188.1	14	199,639.6	10	(169.8)	98	(116.1)	10,710.8	12
16	20	LONG-TERM CREDIT BANK OF JAPAN	JPN.	255,663.4	10.8	209,476.6	15	156,189.1	13	471.4	37	79.9	8,246.3	21
17	15	BANK OF TOKYO	JAPAN	247,187.9	2.0	149,707.3	25	124,612.3	24	301.5	51	(13.2)	7,441.1	26
18	18	ABN AMRO HOLDING	NETHERLANDS	242,374.2	4.1	188,964.7	18	140,546.0	21	821.4	13	12.9	8,961.8	19
19	19	SUMITOMO TRUST & BANKING	JAPAN	234,917.1	1.0	214,111.5	11	105,888.4	31	227.9	60	(38.0)	5,847.2	41
20	21	SOCIETE GENERALE	FRANCE	234,070.5	6.6	177,321.3	21	111,182.9	28	597.4	28	21.5	7,015.2	29
21	17	NATIONAL WESTMINSTER BANK	BRITAIN	231,510.9	0.9	200,583.8	17	200,876.8	9	127.3**	79	(80.8)	10,345.1	14
22	30	BANK OF CHINA	CHINA	229,385.3	39.8	147,372.9	26	101,392.2	32	1,816.1	2	39.4	N.A.	
23	44	KYOWA SAITAMA BANK	JAPAN	227,270.7	89.1	184,936.1	19	152,754.1	16	283.3	54	17.7	7,879.9	24
24	23	MITSUI TRUST & BANKING	JAPAN	226,658.4	7.3	201,675.0	16	99,732.0	33	191.3	68	(26.3)	4,854.9	47
25	22	CITICORP	U.S.	216,922.0	(0.0)	146,475.0	27	147,636.0	19	(457.0)	99	(199.8)	9,489.0	17
26	25	CIE FINANCIERE DE PARIBAS	FRANCE	199,150.9	7.5	38,967.5	93	87,173.4	43	(32.6)	96	(107.0)	11,035.2	11
27	24	DRESDNER BANK	GERMANY	193,976.7	2.5	176,281.8	22	154,325.1	14	381.0	44	(31.8)	7,231.2	28
28	26	UNION BANK OF SWITZERLAND	SWITZ.	183,100.3	(0.1)	152,285.7	24	148,123.4	18	847.9	11	(31.4)	13,073.1	7
29	28	YASUDA TRUST & BANKING	JAPAN	181,347.6	2.8	164,445.5	23	89,327.4	38	160.7	72	(14.1)	3,864.6	62
30	41	ISTIT. BANC. SAN PAOLO DI TORINO	ITALY	178,218.9	33.5	136,555.6	32	107,730.6	30	605.6	26	(3.9)	5,964.4	40
31	29	GROUPE DES CAISSES D'EPARGNE	FRANCE	172,473.5	(0.7)	177,478.3	20	71,222.3	54	443.3	39	(14.0)	9,566.9	16
32	32	HONGKONG & SHANGHAI BANKING	H.K.	160,513.6	8.1	142,370.4	28	73,693.1	52	1,097.0	6	176.0	9,015.8	18
33	45	RABOBANK	NETHERLANDS	158,268.7	32.4	73,596.9	62	84,102.0	44	541.2	33	1.5	7,573.3	25
34	34	TOYO TRUST & BANKING	JAPAN	153,531.5	7.9	134,896.7	33	66,363.5	58	115.6	82	(28.0)	3,302.1	73
35	31	SWISS BANK CORP.	SWITZERLAND	151,891.4	0.5	106,423.4	39	141,190.8	20	719.4	16	21.9	8,748.7	20
36	40	WESTDEUTSCHE LANDESBANK	GERMANY	151,516.2	10.5	138,675.8	30	115,051.6	27	137.3	78	(71.7)	2,240.1	88
37	56	MONTE DEI PASCHI DI SIENA	ITALY	150,426.8	48.1	83,422.8	56	62,239.2	62	268.1	56	(3.5)	4,928.4	46
38	33	COMMERZBANK	GERMANY	149,112.5	3.4	138,852.4	29	119,732.3	26	327.0	48	4.7	5,740.0	43
39	37	BAYERISCHE VEREINSBANK	GERMANY	149,101.6	8.4	138,361.2	31	127,384.7	23	147.1**	75	(26.8)	3,807.3	64
40	79	BANCO DI NAPOLI	ITALY	146,991.0	100.0	66,320.8	66	55,340.8	69	143.0	76	8.1	3,853.2	63
41	43	DAIWA BANK	JAPAN	139,877.8	7.8	108,622.9	38	81,154.2	46	236.3	58	(9.5)	4,602.4	50
42	80	CHEMICAL BANKING CORP.	U.S.	138,930.0	90.3	92,950.0	48	80,962.0	47	154.0	74	(47.1)	7,281.0	27
43	42	NIPPON CREDIT BANK	JAPAN	136,736.5	4.1	119,401.6	36	88,542.1	39	308.6	49	(98.9)	4,161.9	56
44	39	DEUTSCHE GENOSSENSCHAFTSBANK	GER.	135,312.9	1.4	93,619.1	46	91,822.4	36	169.4‡	71	(13.0)	2,701.5	85
45	36	BANCA NAZIONALE DEL LAVORO	ITALY	130,584.1	(5.2)	101,971.8	42	96,232.8	35	66.1**	90	(40.0)	6,453.9	32
46	58	BANK MELLI IRAN	IRAN	130,093.6	32.0	87,750.7	50	44,281.0	84	30.0	94	(257.0)	556.7	99
47	47	BAYERISCHE HYPOBANK	GERMANY	127,040.8	9.0	117,218.6	37	109,134.7	29	212.7	63	(12.6)	3,914.0	61
48	49	BAYERISCHE LANDESBANK	GERMANY	121,818.4	7.2	102,228.1	41	90,235.0	37	176.1	70	(61.9)	2,863.9	81
49	51	ROYAL BANK OF CANADA	CANADA	117,855.7	9.3	93,519.5	47	87,573.0	42	855.2	10	(3.4)	6,911.5	30
50	53	SHOKO CHUKIN BANK●▲	JAPAN	116,437.6	12.9	20,026.8	100	88,478.9	40	208.2	64	(7.8)	3,052.1	77

A Not available
● Not on last year's list
Government owned
** Reflects an extraordinary credit of at least 10%; see the explanation of "profits" and "earnings per share" on page 225

‡ Reflects an extraordinary charge of at least 10%; see the explanation of "profits" and "earnings per share" on page 225

As of December 31, 1991, unless otherwise noted. All companies on the list must have more than 80% of their assets in commercial banking institutions. Daiwa, Mitsubishi Trust, Mitsui Trust, Sumitomo Trust, Toyo Trust, and YasudaTrust include holdings of major trusts in their assets.

Figures for German banks include their own bonds, so do figures for Bank of Tokyo, Industrial Bank of Japan, Long-

CONTINUED

500

THE 100 LARGEST COMMERCIAL BANKING COMPANIES

1991	1990	Companies ranked by assets		ASSETS $ millions	% change from 1990	DEPOSITS $ millions	Rank	LOANS $ millions	Rank	PROFITS $ millions	Rank	% change from 1990	STOCK-HOLDERS' EQUITY $ millions	Rank
51	50	BANKAMERICA CORP.	U.S.	115,509.0	4.3	94,067.0	45	83,948.0	45	1,124.0	9	0.8	8,063.0	23
52	87	BANCO DI ROMA	ITALY	115,337.2	13.3	57,078.0	73	50,401.7	74	115.9**	81	28.4	3,592.8	67
53	46	CREDIT SUISSE	SWITZERLAND	114,292.3	2.5	99,487.3	43	96,773.4	34	591.3**	29	52.5	6,158.6	34
54	48	MIDLAND BANK	BRITAIN	110,855.3	3.6	95,794.8	44	67,870.2	56	(69.0)	97	—	4,385.1	53
55	89	NATIONSBANK CORP.	U.S.	110,319.0	69.0	88,075.0	49	67,503.0	57	202.0	67	(44.8)	6,518.0	31
56	57	CARIPLO	ITALY	108,062.2	8.1	85,953.0	52	55,597.1	68	518.4**	35	11.2	6,106.4	36
57	61	CANADIAN IMP. BANK OF COMM.	CAN.	107,769.5	10.2	85,014.4	53	76,901.9	49	705.4	18	2.6	5,969.1	39
58	54	NMB POSTBANK GROUP	NETHERLANDS	106,963.7	4.1	103,285.1	40	71,546.2	53	351.3**	47	0.8	3,640.1	66
59	62	J.P. MORGAN & CO.	U.S.	103,468.0	11.1	36,976.0	95	26,378.0	98	1,146.0	4	14.0	6,068.0	37
60	63	BANCA COMMERCIALE ITALIANA	ITALY	101,674.4	9.5	84,182.3	55	74,435.4	51	292.2	52	(26.7)	4,574.3	52
61	59	BANK OF YOKOHAMA	JAPAN	98,790.6	0.4	82,172.0	57	65,860.4	59	109.1	85	43.3	3,769.7	65
62	60	CHASE MANHATTAN CORP.	U.S.	98,197.0	0.1	71,517.0	63	65,825.0	60	520.0	34	—	5,324.0	45
63	68	ZENSHINREN BANK	JAPAN	97,704.0	15.5	74,098.9	60	44,872.4	82	103.8	87	(15.3)	1,823.8	91
64	35	BANCO CENTRAL-HISPANO	SPAIN	96,525.6	30.2	84,913.8	54	68,514.0	55	737.2**	15	45.7	6,159.8	33
65	52	LLOYDS BANK	BRITAIN	95,737.0	(10.1)	86,252.1	51	87,828.9	41	710.9	17	(2.9)	4,620.2	49
66	66	BANCO BILBAO VIZCAYA	SPAIN	92,991.9	5.6	58,820.1	71	42,305.4	89	990.3	7	(0.4)	5,647.2	44
67	64	UNION EUROPEENNE DE CIC	FRANCE	91,523.0	2.0	41,249.2	92	46,075.5	80	126.6	80	(15.0)	3,288.0	74
68	77	BANK OF MONTREAL	CANADA	87,911.4	17.5	73,721.0	61	53,580.9	72	517.4	36	(15.6)	4,051.7	58
69	69	NORDDEUTSCHE LANDESBANK	GERMANY	86,558.4	3.8	79,523.0	58	74,936.8	50	41.2	92	(3.0)	2,881.1	80
70	65	WESTPAC BANKING	AUSTRALIA	84,762.2	(4.0)	48,194.1	86	48,656.2	75	367.7**	45	(31.1)	5,792.4	42
71	71	HOKKAIDO TAKUSHOKU BANK	JAPAN	84,566.5	3.3	68,260.8	65	55,623.3	67	113.8	84	(20.6)	2,811.0	82
72	70	CREDITO ITALIANO	ITALY	83,834.5	1.5	68,746.9	64	58,306.1	63	239.6**	57	(15.0)	3,504.8	68
73	76	GENERALE BANK	BELGIUM	82,091.7	7.8	74,845.0	59	77,951.6	48	281.5	55	(17.0)	4,050.1	59
74	73	SKANDINAVISKA ENSKILDA BANKEN	SWE.	81,148.3	0.8	53,879.2	78	64,243.0	61	1,729.2**	3	1,596.8	2,787.0	83
75	78	BANK OF NOVA SCOTIA	CANADA	78,997.9	5.8	59,691.9	70	55,325.5	70	550.4	32	(25.4)	4,125.3	57
76	72	AUSTRALIA & NEW ZEAL. BNKG.	AUS.	78,520.7	3.7	50,852.8	82	43,573.0	86	207.6	65	(20.1)	3,984.5	60
77	67	SECURITY PACIFIC CORP.	U.S.	76,411.0	9.8	54,228.0	76	56,101.0	65	(774.5)	100	(580.2)	3,470.0	70
78	74	GROUPE DES BANQUES POPULAIRES	FR.	74,682.0	4.7	43,579.8	89	38,962.3	91	290.8	53	(36.3)	4,577.1	51
79	75	NATIONAL AUSTRALIA BANK	AUSTRALIA	73,923.1	5.3	46,795.0	87	47,432.6	78	559.5	31	(5.1)	6,158.0	35
80	90	SVENSKA HANDELSBANKEN	SWEDEN	73,748.2	13.6	54,588.8	75	47,518.8	77	1,851.1**	1	1,294.8	2,515.0	86
81	•	BANCO ESPANOL DE CREDITO	SPAIN	71,366.2	36.5	42,066.4	90	32,822.6	94	358.9	46	(46.9)	3,108.3	76
82	85	CREDIT MUTUEL	FRANCE	71,222.3	5.0	50,423.9	84	36,411.5	93	230.5	59	(40.9)	4,193.1	55
83	84	BANQUE INDOSUEZ	FRANCE	70,676.8	4.1	29,646.3	97	30,037.8	96	142.7	77	(16.4)	2,991.2	78
84	83	BANCO DO BRASIL	BRAZIL	69,712.3	1.9	21,240.9	99	54,853.1	71	662.4	23	(6.4)	4,670.3	48
85	96	SUDWESTDEUTSCHE LANDESBANK	GER.	68,826.0	16.9	64,556.1	67	56,945.9	64	36.2	93	(15.8)	1,252.7	96
86	•	COMMONWEALTH BANKING	AUSTRALIA	68,487.1	29.1	41,272.3	91	42,535.0	88	692.6	19	(71.8)	3,377.1	72
87	94	SWEDBANK	SWEDEN	68,486.2	9.8	62,458.5	69	50,742.0	73	434.3**	41	(1,576.7)	1,255.6	95
88	91	CHIBA BANK	JAPAN	67,778.4	6.0	57,983.8	72	45,853.8	81	115.0	83	(2.8)	2,767.5	84
89	88	BANQUE BRUXELLES LAMBERT	BELGIUM	66,802.1	1.7	38,955.3	94	28,095.1	97	100.1	89	(4.9)	1,663.2	93
90	93	DEUTSCHE GIROZENTRALE	GERMANY	66,187.1	4.4	63,348.7	68	40,044.6	90	24.9	95	(99.9)	822.1	98
91	92	BANKERS TRUST NEW YORK CORP.	U.S.	63,959.0	0.6	22,834.0	98	15,241.0	100	667.0	22	(0.3)	3,412.0	71
92	•	KREDIETBANK	BELGIUM	63,146.6	14.9	55,927.2	74	22,481.2	99	214.4	62	(14.1)	1,846.0	90
93	•	CREDIT COMMUNAL DE BELGIQUE	BEL.	61,649.9	11.6	53,305.9	79	55,979.5	66	105.6**	86	(17.8)	1,573.0	94
94	86	DEN DANSKE BANK	DENMARK	61,361.9	8.8	54,127.1	77	43,754.9	85	206.2‡	66	—	3,500.3	69
95	99	TORONTO-DOMINION BANK	CANADA	61,358.3	7.1	48,684.4	85	46,454.6	79	432.6	42	(15.3)	4,343.9	54
96	98	LANDESBANK HESSEN-THURINGEN	GER.	61,123.6	5.4	50,523.6	83	47,655.9	76	53.4	91	(77.0)	1,227.5	97
97	97	HOKURIKU BANK	JAPAN	60,999.5	4.0	51,228.3	80	43,334.0	87	102.6	88	(2.5)	2,439.5	87
98	81	NORDBANKEN	SWEDEN	60,948.1	(16.4)	45,916.9	88	44,289.7	83	186.7	69	—	1,801.4	92
99	•	BANCO DE SANTANDER	SPAIN	60,702.2	8.7	35,614.9	96	32,455.8	95	684.0	21	(24.1)	3,229.3	75
100	•	SHIZUOKA BANK	JAPAN	59,172.0	8.1	51,106.3	81	37,231.6	92	159.8	73	(11.2)	2,900.4	79
TOTALS				15,574,718.9		11,729,487.1		9,530,422.5		40,488.4			579,322.5	

Term Credit Bank of Japan, Norinchukin Bank, and Shoko Chukin Bank.
‡ Figures include lease financing and call loans and are net of loan-loss reserves.
* Figures are for fiscal year ended March 31, 1992.
** Name changed from Mitsui Taiyo Kobe Bank, April 1992.
* Figures are unconsolidated.
** Figures exclude some subsidiaries more than 50% owned.
*** Formed by merger in April 1991 of Kyowa Bank and Saitama Bank (1990 Global Service ranks: B-51 and B-49).
**** Figures reflect merger with Manufacturers Hanover Corp., December 1991.
***** Figures are for fiscal year ended March 31, 1991.
****** Figures are for fiscal year ended October 31, 1991.
******* Name changed from NCNB Corp.
******** Figures are for fiscal year ended November 30, 1991.
********* Figures are for fiscal year ended September 30, 1991.
********** Figures are for fiscal year ended June 30, 1991.

THE 50 LARGEST DIVERSIFIED FINANCIAL COMPANIES

1991	1990	Companies ranked by assets		ASSETS $ millions	ASSETS % change from 1990	REVENUES $ millions	REVENUES Rank	REVENUES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	●	ING GROUP	NETHERLANDS	173,908.7	--	24,652.4	5	--	841.7	5	--	8,092.4	5
2	1	CIE DE SUEZ	FRANCE	154,481.2	(1.9)	33,225.5	1	(5.0)	680.2	10	(0.2)	9,348.8	3
3	3	FED. NATL. MORTGAGE ASSN.	U.S.	147,072.0	10.5	13,585.0	15	7.7	1,363.0	3	16.2	5,547.0	18
4	2	AMERICAN EXPRESS	U.S.	146,411.0	6.3	25,763.0	4	5.9	789.0	7	335.9	7,465.0	7
5	4	GAN[a]	FRANCE	120,292.4	3.1	20,510.0	6	16.9	411.6	24	(4.9)	4,170.4	23
6	6	ALLIANZ HOLDING	GERMANY	118,726.9	20.9	29,389.4	2	25.0	632.1	12	(11.7)	7,013.0	10
7	7	UNION DES ASSURANCES DE PARIS	FRANCE	107,505.7	10.1	27,545.4	3	5.8	667.8	11	(13.8)	6,717.0	12
8	5	SALOMON	U.S.	97,402.0	(11.4)	9,175.0	24	2.6	507.0	14	67.3	3,315.0	28
9	8	AETNA LIFE & CASUALTY	U.S.	91,987.6	3.0	19,195.6	8	(1.2)	505.2	15	(17.7)	7,384.5	8
10	9	MERRILL LYNCH	U.S.	86,259.3	26.6	12,362.8	17	10.3	696.1	9	262.8	3,818.1	26
11	11	AMERICAN INTERNATIONAL GROUP	U.S.	69,389.5	19.3	15,833.9	11	0.8	1,553.0	2	7.7	11,463.5	2
12	10	CIGNA	U.S.	66,737.0	4.8	18,750.0	9	2.2	449.0	22	36.1	5,863.0	14
13	14	MORGAN STANLEY GROUP	U.S.	63,709.1	19.0	6,785.1	28	15.6	475.1	20	75.7	2,993.4	32
14	29	ASSURANCES GENERALES DE FRANCE	FRANCE	60,287.6	63.4	11,012.4	20	13.0	477.0	19	3.9	3,962.5	25
15	12	NOMURA SECURITIES[b]	JAPAN	57,791.9	3.5	4,797.5	32	(29.4)	217.4	32	(72.1)	13,476.7	1
16	17	ORIENT[c]	JAPAN	55,077.3	17.3	3,556.3	38	19.2	55.9	43	22.7	1,950.4	35
17	18	NIPPON SHINPAN	JAPAN	54,605.4	16.4	2,871.9	43	20.8	27.5	45	(37.1)	1,536.1	41
18	15	ITT	U.S.	53,867.0	9.8	20,421.0	7	0.9	817.0	6	(14.7)	9,173.0	4
19	13	TRAVELERS CORP.	U.S.	52,709.0	4.8	11,377.0	18	6.4	318.0	27	--	4,590.0	20
20	16	BAT INDUSTRIES	BRITAIN	51,641.5	7.2	16,652.4	10	7.2	728.6	8	(51.0)	5,577.5	17
21	20	ZURICH INSURANCE	SWITZERLAND	49,130.6	10.7	13,646.3	13	0.1	301.1	28	8.3	5,063.8	19
22	27	ASSICURAZIONI GENERALI	ITALY	47,547.8	27.6	14,231.2	12	14.6	454.9	21	16.5	7,289.3	9
23	21	TRYGG-HANSA SPP	SWEDEN	47,344.7	7.5	6,898.3	26	4.5	2,398.7	1	44.9	1,528.9	42
24	24	FEDERAL HOME LOAN MORTGAGE	U.S.	46,860.0	15.5	4,219.0	36	6.4	555.0	13	34.1	2,566.0	33
25	23	STUDENT LOAN MARKETING ASSN.	U.S.	45,320.1	10.2	3,257.4	39	(10.0)	345.1	26	14.7	1,149.8	45
26	19	DAIWA SECURITIES[b]	JAPAN	43,388.2	(5.9)	4,755.5	33	(13.8)	(320.4)	49	(174.0)	7,562.0	6
27	39	ISTITUTO MOBILIARE ITALIANO[c]	ITALY	42,130.2	30.6	1,020.1	48	6.8	266.0	29	(30.7)	4,409.3	21
28	30	AEGON	NETHERLANDS	41,694.5	16.5	7,294.1	25	10.3	442.2	23	7.6	3,344.0	27
29	41	BEAR STEARNS	U.S.	39,284.9	24.4	2,380.0	46	(0.3)	142.9	39	19.7	1,072.6	46
30	32	LOEWS	U.S.	39,195.4	12.8	13,620.3	14	7.1	904.3	4	12.4	5,667.1	15
31	38	CREDIOP	ITALY	36,818.3	14.1	3,779.9	37	18.8	218.8	31	0.0	1,936.7	36
32	33	AMERICAN GENERAL	U.S.	36,105.0	6.8	4,395.0	35	3.2	480.0	17	14.6	4,329.0	22
33	34	WINTERTHUR GROUP	SWITZERLAND	35,644.4	6.4	10,187.2	22	2.2	183.3	33	7.7	3,201.3	30
34	22	AXA	FRANCE	34,995.2	(17.3)	11,136.4	19	6.8	492.1	16	71.0	6,814.2	11
35	28	ORIX[c]	JAPAN	34,957.9	(5.7)	3,212.3	40	1.9	153.0	35	7.5	1,606.6	40
36	35	TOKIO MARINE & FIRE INSURANCE[c]	JAPAN	34,671.7	6.9	13,346.2	16	10.1	235.9	30	(9.5)	4,120.9	24
37	40	TRANSAMERICA	U.S.	33,682.3	6.0	6,815.3	27	1.7	50.1	44	81.2	3,025.8	31
38	25	YAMAICHI SECURITIES[b]	JAPAN	30,172.7	(22.4)	2,499.6	45	(23.4)	(391.6)	50	(239.6)	5,599.4	16
39	37	SWISS REINSURANCE[a]	SWITZERLAND	30,105.8	(6.8)	10,376.1	21	1.9	150.6	37	(24.4)	2,064.6	34
40	42	HOUSEHOLD INTERNATIONAL	U.S.	29,982.3	1.8	4,593.9	34	6.3	149.8	38	(36.3)	1,774.9	37
41	36	NIKKO SECURITIES[b]	JAPAN	29,691.0	(8.3)	3,021.5	42	(13.9)	(202.5)	48	(165.8)	6,469.4	13
42	43	JAPAN LEASING[c]	JAPAN	28,878.9	(1.1)	5,731.7	31	15.6	13.6	46	(20.0)	550.9	49
43	46	CREDIT NATIONAL	FRANCE	27,988.2	8.4	2,556.6	44	4.6	95.3	41	3.9	1,164.4	44
44	47	YASUDA FIRE & MARINE INSURANCE[c]	JAPAN	26,141.7	17.6	9,844.6	23	9.4	106.9	40	(3.7)	1,693.4	39
45	45	S.G. WARBURG GROUP[b]	BRITAIN	24,815.2	(6.2)	N.A.		--	176.6	34	16.8	1,456.1	43
46	48	APLUS[c]	JAPAN	24,060.9	12.9	1,227.6	47	14.6	3.5	47	(82.5)	499.9	50
47	31	JAPAN SECURITIES FINANCE[c]	JAPAN	22,957.7	(34.0)	933.6	49	(23.7)	63.0	42	(12.1)	686.0	48
48	●	PAINE WEBBER GROUP	U.S.	22,621.8	24.6	3,165.9	41	6.3	150.7	36	--	1,050.5	47
49	50	PRIMERICA	U.S.	21,560.8	9.5	6,608.2	29	6.7	478.8	18	28.4	3,279.8	29
50	49	GUARDIAN ROYAL EXCHANGE	BRITAIN	21,373.2	2.2	5,961.1	30	6.8	410.3	25	--	1,767.1	38
TOTALS				2,858,983.3		508,176.5			20,720.5				

N.A. Not available
● Not on last year's list
[a] Government owned
Assets as of December 31, 1991, unless otherwise noted. Assets of consolidated subsidiaries are included. Holding companies engaged in commercial banking, savings, or life insurance are listed here only when assets of those businesses represent less than 80% of the company's total. All U.S. companies on the list must have a widely held and actively traded stock.
[b] Total revenues during the year, including any consolidated or nonfinancial revenues from manufacturing, retailing, etc., and revenues from discontinued operations when published. All companies on the list must have derived more than 50% of their revenues from financial businesses.
[c] Figures are for fiscal year ended March 31, 1992.
[d] Figures are unconsolidated.
[e] Figures are for fiscal year ended June 30, 1991.
[f] Figures are for fiscal year ended March 31, 1991.

CONTINUED

500

THE 50 LARGEST SAVINGS INSTITUTIONS

SAVINGS

1991	1990	Companies ranked by assets		ASSETS $ millions	% change from 1990	DEPOSITS $ millions	Rank	LOANS $ millions	Rank	PROFITS $ millions	Rank	% change from 1990	STOCK-HOLDERS' EQUITY $ millions	Rank
1	2	ABBEY NATIONAL	BRITAIN	107,117.7	19.5	89,112.7	2	83,029.5	2	732.1	2	8.8	5,543.9	1
2	1	HALIFAX BUILDING SOCIETY	BRITAIN	105,032.5	1.3	98,087.5	1	87,678.9	1	754.8	1	9.5	4,686.8	2
3	3	LA CAIXA	SPAIN	61,986.8	5.5	47,732.9	4	24,472.3	11	305.3	3	99.7	3,378.9	3
4	4	NATIONWIDE ANGLIA BLDG. SOC.	BRITAIN	59,240.8	8.9	55,228.2	3	N.A.		247.6	6	31.6	2,599.1	6
5	5	H.F. AHMANSON	U.S.	47,226.2	7.8	39,147.1	5	42,318.0	3	245.8	7	28.7	2,656.4	4
6	6	GREAT WESTERN FINANCIAL CORP.	U.S.	39,599.6	0.5	30,570.4	10	35,115.7	4	298.1	4	54.4	2,321.1	7
7	8	ALLIANCE & LEICESTER BLDG. SOC.	BRIT.	38,214.4	7.1	34,974.8	7	28,230.5	7	145.2	16	42.8	1,498.0	14
8	10	CONFEDERATION DESJARDINS	CANADA	37,971.5	9.1	34,379.7	8	32,243.2	5	171.0	13	34.2	2,253.1	8
9	9	WOOLWICH BUILDING SOCIETY	BRITAIN	37,627.5	7.2	35,308.8	6	30,546.4	6	155.3	14	52.6	1,797.9	11
10	11	CT FINANCIAL SERVICES	CANADA	36,501.5	20.7	32,526.5	9	27,020.3	8	193.2	12	6.1	1,590.6	12
11	7	TRILON FINANCIAL	CANADA	35,957.8	7.7	30,429.1	11	24,739.6	10	95.1	20	87.8	1,505.5	13
12	14	GRUPO CAJA DE MADRID	SPAIN	32,067.2	20.6	25,224.1	14	18,171.8	16	277.6	5	11.1	2,617.6	5
13	12	GIROZENTR. & BANK DER ÖSTERR.	AUSTR.	29,300.1	0.0	23,494.6	16	15,213.3	21	27.9	39	2.0	N.A.	
14	13	LEEDS PERMANENT BLDG. SOC.	BRITAIN	28,401.3	3.5	26,253.7	12	23,554.8	12	226.1	9	18.6	1,319.4	17
15	22	CHELTENHAM & GLOUCESTER BLDG.	BRIT.	27,596.8	23.7	26,037.8	13	22,923.3	13	221.6	10	30.8	1,198.2	18
16	15	RAIFFEISENBANKEN	SWITZERLAND	26,930.9	1.7	24,677.5	15	25,201.8	9	29.1	37	12.3	643.7	29
17	17	BHW HOLDING	GERMANY	24,797.5	0.9	20,072.3	18	19,701.5	15	35.8	35	115.2	1,479.7	15
18	23	CAIXA GERAL DE DEPOSITOS	PORTUGAL	24,649.1	13.5	18,379.4	21	11,546.5	28	198.1**	11	16.4	1,984.5	10
19	20	WUSTENROT HOLDING	GERMANY	24,341.8	5.0	18,299.2	22	17,939.4	18	28.3	38	22.4	1,070.3	19
20	21	GOLDEN WEST FINANCIAL CORP.	U.S.	24,297.8	7.7	16,818.5	23	22,087.6	14	238.6	8	31.5	1,449.1	16
21	19	NEDERLANDSE SPAARBANKBOND	NETH.	23,659.2	1.4	15,867.2	24	14,842.6	23	43.2	33	2.2	2,192.8	9
22	27	BRADFORD & BINGLEY BLDG. SOC.	BRIT.	22,224.5	27.4	20,669.7	17	17,869.6	19	129.2	17	10.5	1,025.9	20
23	16	GLENFED	U.S.	21,501.1	15.5	15,864.8	25	18,034.4	17	(231.7)	48	297.6	871.8	25
24	24	HAMBURGER SPARKASSE	GERMANY	20,190.7	3.7	18,560.2	20	14,567.9	24	51.9	32	10.5	1,020.4	21
25	26	NATL. & PROVINCIAL BLDG. SOC.	BRITAIN	19,980.4	11.7	18,764.3	19	17,093.3	20	117.9	18	68.6	959.7	23
26	18	CALFED	U.S.	18,395.4	24.9	14,827.7	28	14,974.8	22	(139.1)	46		1,006.3	22
27	30	BRITANNIA BUILDING SOCIETY	BRITAIN	15,905.4	11.1	14,956.4	27	12,879.8	25	74.7	24	11.3	715.5	27
28	28	LANDESGIROKASSE	GERMANY	15,303.0	2.5	15,343.4	26	11,942.6	27	53.7	31	7.0	769.9	26
29	35	CAJA POSTAL	SPAIN	14,934.7	31.3	10,882.7	34	5,556.9	45	147.3	15	12.2	N.A.	
30	32	NATIONAL TRUSTCO	CANADA	14,781.7	10.3	13,926.1	29	12,378.0	26	59.2	30	13.6	622.0	30
31	25	HOMEFED CORP.	U.S.	13,885.2	24.0	10,211.5	35	10,606.1	30	(807.7)	50		13.6	45
32	39	BRISTOL & WEST BLDG. SOCIETY	BRITAIN	13,324.7	22.4	12,335.9	30	10,654.6	29	82.2	22	15.4	689.5	28
33	31	SPAREBANKEN NOR	NORWAY	12,772.8	7.6	11,246.6	33	10,063.0	31	(146.1)	47		309.6	42
34	33	FRANKFURTER SPARKASSE	GERMANY	12,593.2	4.5	11,935.8	31	9,449.3	32	21.5	42	54.9	490.6	32
35	34	STADTSPARKASSE KÖLN	GERMANY	12,125.3	3.5	11,308.3	32	8,838.4	33	9.3	45	45.0	406.1	35
36	38	BILBAO BIZKAIA KUTXA	SPAIN	11,486.3	3.5	9,925.9	37	4,861.8	47	95.1	19	18.8	951.7	24
37	44	CAJA DE AHORROS DE CATALUNA	SPAIN	11,426.1	14.4	10,062.4	36	6,322.7	42	82.1	23	21.0	N.A.	
38	45	NASSAUISCHE SPARKASSE	GERMANY	10,257.1	8.7	9,606.0	38	7,521.8	37	27.1	40	62.6	317.1	41
39	40	DIME SAVINGS BANK OF NEW YORK	U.S.	9,898.1	8.7	8,238.9	40	8,374.8	34	(237.4)	49		256.9	44
40	50	IBERCAJA	SPAIN	9,829.9	15.5	7,512.1	43	4,520.3	49	64.7	27	(15.2)	N.A.	
41	48	STADTSPARKASSE MUNCHEN	GERMANY	9,569.4	4.7	8,880.3	39	6,208.6	43	15.8	43	5.9	405.9	36
42	46	STANDARD FEDERAL BANK	U.S.	9,513.9	2.3	6,188.5	49	7,962.4	35	65.8	25	64.2	524.8	31
43	41	FIRSTFED MICHIGAN CORP.	U.S.	9,415.2	11.8	3,778.2	50	7,686.8	36	34.0	36	269.6	472.8	33
44	●	CAIXA GALICIA	SPAIN	9,205.3	9.3	7,608.2	42	4,571.2	48	82.7	21	7.0	N.A.	
45	49	KREISSPARKASSE KÖLN	GERMANY	8,761.6	2.4	7,508.4	43	5,850.6	44	15.1	44	20.2	401.9	37
46	43	COAST SAVINGS FINANCIAL	U.S.	8,595.7	15.9	7,100.1	46	7,469.4	38	41.7	34	1,349.9	278.6	43
47	47	ANCHOR BANCORP*	U.S.	8,415.4	8.0	6,706.2	48	6,914.4	39	65.8	26		352.9	39
48	●	NORTHERN ROCK BLDG. SOCIETY	BRITAIN	8,238.0	24.9	7,680.3	41	6,911.1	40	64.7	28	31.8	378.5	38
49	●	SPARKASSE IN BREMEN	GERMANY	8,076.9	5.3	6,984.3	47	5,317.2	46	22.3	41	77.2	338.3	40
50	●	YORKSHIRE BUILDING SOCIETY	BRITAIN	7,808.9	12.9	7,243.9	45	6,443.7	41	62.4	29	21.9	449.2	34
TOTALS				1,240,934.1		1,058,479.4		878,422.5		4,594.1			57,816.3	

N.A. Not available
● Not on last year's list
* Government owned
As of December 31, 1991, unless otherwise noted. All U.S. companies on the list must have derived more than 50% of their consolidated revenues from chartered thrift institutions and must have a widely held and actively traded stock. All non-U.S. companies on the list must hold a majority of their assets in residential and/or personal loans and must not be consolidated subsidiaries of another company.
† Net of unearned discount and loan loss reserves. Figure includes lease financing.
** Figures are for fiscal year ended January 31, 1992.
*** Figures are for fiscal year ended March 31, 1992.
† Figures are for fiscal year ended September 30, 1991.
†† Figures are for fiscal year ended June 30, 1991.
††† Figures are for fiscal year ended October 31, 1991.
* Name changed from Anchor Savings Bank.

THE 50 LARGEST LIFE INSURANCE COMPANIES

1991	1990	Companies ranked by assets		ASSETS $ millions	ASSETS % change from 1990	LIFE INSURANCE IN FORCE $ millions	LIFE INSURANCE IN FORCE Rank	PREMIUM AND ANNUITY INCOME $ millions	PREMIUM AND ANNUITY INCOME Rank	NET INVESTMENT INCOME $ millions	NET INVESTMENT INCOME Rank	NET INCOME* $ millions	NET INCOME* Mutual rank	NET INCOME* Stock rank	NET INCOME* % change from 1990
1	1	NIPPON LIFE*	JAPAN	222,018.2	13.8	2,711,085.7	1	39,968.6	1	10,009.0	1	4,948.6	1		20.1)
2	2	DAI-ICHI MUTUAL LIFE*	JAPAN	155,121.7	13.7	1,898,890.5	2	28,863.0	2	7,117.3	4	3,531.9	5		15.6)
3	3	PRUDENTIAL OF AMERICA*	U.S.	148,417.6	11.2	820,708.7	8	24,861.9	4	8,977.9	2	1,386.7	12		590.6
4	4	SUMITOMO LIFE*	JAPAN	135,624.1	15.2	1,790,776.2	3	25,521.7	3	6,051.5	5	2,694.3	8		20.5)
5	5	METROPOLITAN LIFE*	U.S.	110,799.5	7.3	948,020.9	5	19,458.4	5	7,584.5	3	237.0	23		(34.1)
6	6	MEIJI MUTUAL LIFE*	JAPAN	93,477.1	16.3	1,242,936.7	4	18,154.3	6	3,868.0	9	2,022.6	9		15.1)
7	8	PRUDENTIAL	BRITAIN	72,402.7	15.6	N.A.		10,643.6	11	4,380.2	7	153.8		9	260.6
8	7	ASAHI MUTUAL LIFE*	JAPAN	71,919.2	14.7	835,895.4	7	13,621.6	8	3,767.8	10	1,734.2	10		14.8
9	10	MITSUI MUTUAL LIFE*	JAPAN	58,526.2	16.2	744,750.4	9	12,110.4	9	2,483.0	22	1,165.4	13		22.4
10	12	TEACHERS INSURANCE & ANNUITY	U.S.	55,575.8	11.4	29,804.4	46	3,233.6	40	4,706.6	6	331.6		3	(13.8)
11	13	ALLIANZ	GERMANY	53,428.7	7.2	137,727.9	28	5,850.5	26	3,296.8	14	56.7		12	13.2
12	9	AETNA LIFE	U.S.	52,355.0	0.0	311,108.9	16	8,045.3	14	3,409.1	12	310.3		4	27.4
13	15	YASUDA MUTUAL LIFE*	JAPAN	50,947.9	16.2	847,070.4	6	11,036.8	10	2,613.8	17	1,408.2	11		9.4
14	11	EQUITABLE LIFE ASSURANCE*	U.S.	50,352.8	0.1	308,211.5	17	3,452.5	39	2,451.0	23	75.5	29		0.0
15	14	AUSTRALIAN MUTUAL PROVIDENT*	AUS.	49,756.8	8.6	129,109.1	29	6,373.1	21	3,036.4	16	3,241.3	6		4.3
16	18	STANDARD LIFE*	BRITAIN	45,623.3	22.7	36,722.1	41	5,873.2	25	2,499.7	21	4,246.8	3		7.6
17	16	NEW YORK LIFE*	U.S.	42,749.5	7.2	311,532.2	15	7,646.1	15	3,299.1	13	221.3	24		1.1
18	19	CHIYODA MUTUAL LIFE*	JAPAN	42,291.8	15.4	422,974.4	12	7,226.2	19	2,350.9	27	837.8	15		9.1)
19	17	CONNECTICUT GENERAL LIFE	U.S.	41,692.3	11.5	421,375.7	13	4,724.0	30	2,403.1	24	453.5		2	85.4
20	20	TAIYO MUTUAL LIFE*	JAPAN	39,092.7	13.5	147,938.1	25	8,937.8	12	2,213.4	29	515.7	17		13.4)
21	21	TOHO MUTUAL LIFE*	JAPAN	38,508.5	14.0	267,036.7	18	8,563.7	13	1,191.0	41	411.8	19		33.5)
22	22	JOHN HANCOCK MUTUAL LIFE*	U.S.	36,220.2	7.3	246,162.0	20	5,947.0	24	2,601.7	18	209.0	25		1.4
23	26	LEGAL & GENERAL	BRITAIN	36,172.4	22.0	N.A.		3,716.0	37	3,762.5	11	36.1		14	76.7
24	24	NORTHWESTERN MUTUAL LIFE*	U.S.	35,743.8	13.9	251,128.8	19	4,678.2	31	2,536.9	20	538.5	16		275.0
25	23	TRAVELERS	U.S.	35,662.7	8.0	214,870.8	22	7,626.0	16	2,577.0	19	191.7		6	23.3
26	25	NORWICH UNION*	BRITAIN	34,781.1	11.6	33,167.8	44	5,119.5	28	2,115.5	30	4,424.5	2		34.0
27	39	COMMERCIAL UNION	BRITAIN	32,756.5	73.3	N.A.		7,262.5	14	780.7	49	(115.5)		16	163.4
28	27	PRINCIPAL MUTUAL LIFE	U.S.	31,499.4	14.4	121,750.9	31	7,333.3	17	2,252.2	28	330.2	20		41.4
29	28	SUN LIFE ASSURANCE OF CANADA*	CAN.	31,014.3	12.8	248.3	47	4,206.9	34	2,352.2	26	195.5	26		1.3
30	30	KYOEI LIFE*	JAPAN	29,598.8	18.8	434,080.4	11	6,167.6	23	937.0	48	1.2		15	(45.5)
31	29	MASSACHUSETTS MUTUAL LIFE*	U.S.	29,290.6	7.6	122,934.3	30	4,423.0	32	2,105.0	31	176.8	28		61.8
32	31	MANUFACTURERS LIFE INSURANCE*	CAN.	28,465.1	17.3	183,336.2	23	3,488.4	38	2,354.7	25	182.3	27		71.7
33	32	CNP	FRANCE	28,136.4	23.6	654,618.7	10	6,313.3	22	4,069.6	8	188.1		7	13.3
34	34	SCOTTISH WIDOWS' FUND & LIFE*	BRITAIN	25,245.5	21.5	34,802.7	42	3,134.1	41	1,202.0	40	3,188.8	7		39.7
35	35	DAIDO MUTUAL LIFE*	JAPAN	25,023.1	21.1	330,315.1	14	7,112.4	20	1,018.4	45	506.0	18		13.5)
36	33	NIPPON DANTAI LIFE*	JAPAN	24,484.7	15.4	233,071.8	21	5,093.1	29	684.5	50	N.A.	24		95.7
37	42	LINCOLN NATIONAL LIFE	U.S.	23,530.7	25.2	145,553.8	26	5,326.0	27	1,342.2	34	210.8		5	302.7
38	36	OLD MUTUAL*	SOUTH AFRICA	22,910.0	12.3	58,895.3	40	2,924.5	45	3,175.5	10	3,909.1	4		78.0
39	40	DAIHYAKU LIFE*	JAPAN	21,916.7	16.0	150,270.6	24	4,258.2	33	1,280.1	37	324.1	21		8.2
40	37	HAMBURG-MANNHEIMER	GERMANY	21,401.7	7.3	76,092.3	37	2,705.5	47	1,288.6	35	38.3		13	37.1
41	44	CONFEDERATION LIFE*	CANADA	21,127.5	17.1	106,266.1	32	4,078.1	35	1,075.5	43	16.9	32		81.5
42	38	VOLKSFURSORGE HOLDING*	GERMANY	20,604.2	5.4	64,536.9	39	2,745.3	46	1,284.3	36	55.2	30		20.4
43	48	IDS LIFE	U.S.	19,508.7	25.2	33,951.4	43	2,594.4	48	1,264.5	38	174.6		8	40.2
44	41	NATL. MUT. LIFE OF AUSTRALASIA*	AUS.	19,198.6	2.0	138,883.6	27	17,123.8	7	1,958.4	32	1,069.4	14		128.9
45	●	SANLAM	SOUTH AFRICA	18,514.5	69.8	77,469.0	36	2,967.0	44	1,245.9	39	2,202.9		1	3.1
46	●	SUN LIFE	BRITAIN	18,430.1	25.4	31,897.4	45	3,047.2	42	957.6	46	73.7		11	27.1
47	47	WINTERTHUR LIFE*	SWITZERLAND	17,960.5	5.7	96,923.6	34	2,968.2	43	1,021.9	44	11.7	33		4.9
48	50	ALLSTATE LIFE	U.S.	17,933.9	21.0	101,992.7	33	3,886.1	36	1,494.8	33	139.6		10	7.0
49	45	MUTUAL OF NEW YORK*	U.S.	17,493.5	2.8	70,357.7	38	2,238.3	49	1,184.9	42	260.1	22		83.2
50	46	NEW ENGLAND MUTUAL LIFE*	U.S.	16,947.8	(1.0)	86,809.4	35	2,179.9	50	939.7	47	48.0	31		25.4
TOTALS				2,372,254.2		18,464,063.4		414,830.2		138,573.9		48,572.8			

DATA FOR ALL U.S. COMPANIES ARE CALCULATED ON THE STATUTORY ACCOUNTING BASIS REQUIRED BY STATE INSURANCE REGULATORY AUTHORITIES.

CONTINUED

A Not available
● Not on last year's list
G Government owned
* Indicates a mutual company
As of December 31, 1991, unless otherwise noted

† Face value of all life policies, including variable life insurance, as of fiscal year-end
‡ Includes premium income from life, accident, and health policies, annuities, and contributions to deposit administration funds

* After dividends to policyholders and income taxes, excluding realized capital gains and losses. Figures in parentheses indicate a loss
** Figures are for fiscal year ended March 31, 1992

THE GLOBAL SERVICE 500

THE 50 LARGEST RETAILING COMPANIES

1991	1990	Companies ranked by sales		SALES $ millions	SALES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	ASSETS $ millions	ASSETS Rank	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	1	SEARS ROEBUCK	U.S.	57,242.4	2.3	1,278.9	2	41.8	106,434.8	1	14,188.2	1
2	2	WAL-MART STORES	U.S.	44,289.4	35.9	1,608.5	1	24.6	15,443.4	4	6,989.7	2
3	3	KMART	U.S.	34,969.0	9.0	859.0	4	13.6	15,999.0	3	6,891.0	3
4	4	TENGELMANN	GERMANY	26,417.9	11.2	N.A.			N.A.		N.A.	
5	14	ITO-YOKADO	JAPAN	22,031.7	69.7	550.6	9	13.4	11,997.0	6	4,493.9	7
6	6	KROGER	U.S.	21,350.5	5.4	79.9‡	37	3.1	4,114.4	32	(2,749.2)	44
7	●	REWE-HANDELSGRUPPE	GERMANY	20,892.9		N.A.			635.6	46	N.A.	
8	5	AMERICAN STORES	U.S.	20,623.0	6.0	199.4	19	9.3	6,954.6	20	1,515.6	23
9	9	DAIEI	JAPAN	18,889.6	16.8	73.9	38	2.2	11,345.3	9	1,120.0	26
10	13	CARREFOUR	FRANCE	17,800.0	25.9	214.0	18	(13.8)	9,417.5	11	1,577.1	22
11	8	J.C. PENNEY	U.S.	17,295.0	0.7	80.0	35	86.1	12,520.0	5	4,188.0	9
12	11	DAYTON HUDSON	U.S.	16,115.0	9.3	301.0	14	26.9	9,485.0	10	2,231.0	14
13	7	E. LECLERC	FRANCE	15,959.8	13.1	N.A.			N.A.		N.A.	
14	10	SAFEWAY	U.S.	15,119.2	1.7	54.9‡	39	37.0	5,181.2	24	214.4	41
15	12	J. SAINSBURY	BRITAIN	15,086.7	4.6	760.3	6	15.9	8,169.1	13	4,585.4	6
16	19	PROMODES	FRANCE	13,542.4	25.6	79.9	36	14.3	5,486.8	23	712.8	36
17	16	TESCO	BRITAIN	12,372.9	6.5	689.6	8	24.5	7,291.4	18	4,296.9	8
18	20	JUSCO	JAPAN	12,209.2	14.0	89.2	30	17.8	7,220.2	19	1,612.4	20
19	17	COLES MYER	AUSTRALIA	11,687.1	1.7	276.4	16	7.0	4,298.1	31	1,946.5	18
20	42	ASKO DEUTSCHES KAUFHAUS	GERMANY	10,840.1	60.5	(3.9)	42	(102.1)	6,575.9	21	587.8	38
21	26	KONINKLIJKE AHOLD	NETHERLANDS	10,768.5	15.8	147.5	24	10.4	3,138.5	36	751.9	34
22	18	MAY DEPARTMENT STORES	U.S.	10,615.0	3.7	515.0	10	3.0	8,728.0	12	2,781.0	11
23	25	KARSTADT	GERMANY	10,332.9	10.5	155.0	23	10.6	4,570.5	29	1,607.3	21
24	27	SEIYU	JAPAN	10,205.3	12.8	86.6	31	13.7	11,830.7	7	864.9	31
25	23	MIGROS	SWITZERLAND	10,133.1	3.7	192.7	21	4.3	7,457.0	16	3,613.3	10
26	24	WINN-DIXIE STORES	U.S.	10,074.3	3.4	170.9	22	12.1	1,817.5	43	860.0	32
27	28	TAKASHIMAYA	JAPAN	10,073.5	1.6	47.8	40	69.8	5,913.0	22	1,031.2	28
28	21	MARKS & SPENCER	BRITAIN	10,051.5	5.7	698.5	7	4.6	7,456.9	17	4,635.9	5
29	22	WOOLWORTH	U.S.	9,914.0	1.3	(166.0)	45	152.4	4,618.0	27	2,031.0	17
30	29	MELVILLE	U.S.	9,886.2	13.8	346.7	12	(10.0)	4,085.2	33	2,090.2	16
31	30	NICHII	JAPAN	9,533.1	13.6	81.7	34	1.9	8,100.0	14	1,798.5	19
32	36	KAUFHOF	GERMANY	9,349.7	16.1	81.8	33	34.9	4,015.8	34	998.6	29
33	35	DELHAIZE "LE LION"	BELGIUM	9,073.2	13.0	128.0	26	13.4	2,870.8	37	529.1	39
34	40	OTTO VERSAND	GERMANY	8,769.7	25.9	N.A.			N.A.		N.A.	
35	33	ALBERTSON'S	U.S.	8,680.5	5.6	257.8	17	10.3	2,216.2	39	1,199.5	25
36	37	MITSUKOSHI	JAPAN	8,354.8	7.1	(9.0)	43	(23.2)	4,356.6	30	891.8	30
37	●	QUELLE GROUP	GERMANY	8,260.1		N.A.			1,768.8	44	N.A.	
38	32	ARGYLL GROUP	BRITAIN	8,205.2	1.2	455.3	11	17.7	4,791.3	26	2,545.9	12
39	50	CORTE INGLES	SPAIN	8,198.7	40.3	339.9	13	55.4	4,591.0	28	2,224.3	15
40	34	SOUTHLAND	U.S.	8,076.0	0.5	82.5*	32		2,595.8	38	(1,210.3)	43
41	31	GROUPE CASINO	FRANCE	7,521.5	9.9	94.1	28	31.1	3,753.2	35	702.1	37
42	39	LOBLAW	CANADA	7,441.5	3.1	91.3	29	10.9	2,043.3	41	728.5	35
43	41	COOP SCHWEIZ	SWITZERLAND	7,269.0	5.6	118.5	27	1.1	N.A.		N.A.	
44	●	SPAR HANDELS	GERMANY	7,108.4	36.5	23.4	41	16.5	1,717.2	45	394.1	40
45	●	IMASCO	CANADA	6,939.9	85.6	289.2	15	14.2	40,143.8	2	2,470.3	13
46	●	FEDERATED DEPARTMENT STORES	U.S.	6,932.3	51.5	836.4**	5		7,501.1	15	1,454.1	24
47	38	R.H. MACY	U.S.	6,761.6	7.0	(150.2)**	44		4,811.6	25	(140.5)	42
48	●	PRICE	U.S.	6,756.0	24.4	134.1	25	6.9	1,845.5	42	763.0	33
49	48	WALGREEN	U.S.	6,733.0	11.1	195.0	20	11.7	2,094.6	40	1,081.2	27
50	43	MCDONALD'S	U.S.	6,695.0	0.8	859.6	3	7.1	11,349.1	8	4,835.1	4
TOTALS				583,647.4		13,295.6			418,750.5		95,933.5	

N.A. Not available
● Not on last year's list
** Reflects an extraordinary credit of at least 10%; see the explanation of "profits" on page 225.
‡ Reflects an extraordinary charge of at least 10%; see the explanation of "profits" on page 225.

Net sales include operating revenues, non-retailing activities and revenues from discontinued operations when published. Figures are for the fiscal year ended January 31, 1992, unless otherwise noted. Sales of consolidated subsidiaries are included. All companies on the list must have derived more than 50% of their revenues from retail operations.
* Figures are for fiscal year ended December 31, 1991.
† Figures are for fiscal year ended June 30, 1991.
* Figures are for fiscal year ended February 28, 1992.
* Figures are for fiscal year ended March 31, 1992.
* Figures are for fiscal year ended July 31, 1991.
* Figures are for fiscal year ended January 31, 1991.
* 1990 Global Service rank: 5.76.
* Figures are for fiscal year ended August 31, 1991.

THE 50 LARGEST TRANSPORTATION COMPANIES

1991	1990	Companies ranked by revenues		REVENUES $ millions	% change from 1990	PROFITS $ millions	Rank	% change from 1990	ASSETS $ millions	Rank	STOCKHOLDERS' EQUITY $ millions	Rank
1	1	SNCF	FRANCE	15,152.6	2.3	1.1**	29	62.5	36,292.2	4	N.A.	
2	3	UNITED PARCEL SERVICE	U.S.	15,047.4	10.4	700.2	1	17.3	8,858.6	23	3,873.2	9
3	2	DEUTSCHE BUNDESBAHN	GERMANY	14,894.7	0.6	(3,197.8)	49		44,375.0	3	7,918.1	2
4	4	EAST JAPAN RAILWAY	JAPAN	14,638.5	10.9	427.5	4	5.0	51,209.6	1	3,815.8	10
5	7	NIPPON EXPRESS	JAPAN	13,286.3	22.2	192.9	10	52.9	7,933.6	28	1,475.2	30
6	5	AMR	U.S.	12,993.0	10.1	(240.0)	39		16,208.0	7	3,754.0	11
7	8	AIR FRANCE	FRANCE	11,823.5	13.3	(121.5)**	37		11,600.9	14	2,627.0	16
8	6	UAL	U.S.	11,748.0	5.3	(331.9)	47	49.4	9,876.3	19	1,596.8	28
9	9	JAPAN AIRLINES	JAPAN	10,627.2	7.9	(99.8)	35	202.4	14,697.8	9	2,985.8	14
10	10	SNAM	ITALY	10,486.4	14.0	693.9	3	1,013.8	15,101.5	8	2,522.8	17
11	12	LUFTHANSA	GERMANY	9,713.8	7.8	(250.7)	40	3,754.1	10,496.2	15	1,738.5	23
12	14	DELTA AIR LINES	U.S.	9,170.6	6.9	(324.4)	46	207.1	8,410.7	24	2,506.1	18
13	11	BRITISH AIRWAYS	BRITAIN	9,063.6	0.6	685.3	2	290.6	9,119.0	22	2,229.4	20
14	13	PENINSULAR & ORIENTAL STEAM NAVIGATION	BRITAIN	8,659.9	3.7	335.3**	7	6.3	9,921.7	17	4,240.5	6
15	16	CENTRAL JAPAN RAILWAY	JAPAN	8,647.5	9.4	423.2	5	12.3	46,707.9	2	2,834.5	15
16	15	CSX	U.S.	8,636.0	4.0	(272.0)	42	165.4	12,798.0	13	3,182.0	12
17	19	FEDERAL EXPRESS	U.S.	7,688.3	9.4	5.9	27	94.9	5,672.5	39	1,668.6	27
18	17	NORTHWEST AIRLINES	U.S.	7,533.7	3.8	(3.1)	30		8,005.8	26	2,383.9	19
19	18	UNION PACIFIC	U.S.	7,151.0	1.3	64.0	14	89.6	13,326.0	12	4,163.0	7
20	23	DANZAS	SWITZERLAND	7,112.1	12.3	N.A.		—	N.A.		N.A.	
21	22	WEST JAPAN RAILWAY	JAPAN	6,972.3	9.3	273.8	8	30.2	17,282.1	6	1,795.5	22
22	20	BRITISH RAILWAYS BOARD	BRITAIN	6,850.1	1.8	(251.1)	41		7,899.8	29	5,154.9	3
23	26	NIPPON YUSEN KABUSHIKI	JAPAN	6,831.2	11.6	47.4	17	10.3	9,550.2	21	1,729.4	25
24	25	KINKI NIPPON RAILWAY	JAPAN	6,665.7	6.2	119.7	11	18.9	9,558.3	20	1,684.3	26
25	27	ALL NIPPON AIRWAYS	JAPAN	6,634.1	14.5	54.7	18	(32.3)	9,911.7	18	1,463.6	31
26	21	USAIR GROUP	U.S.	6,532.7	0.5	(305.3)	43		6,453.6	35	1,318.2	32
27	24	CONTINENTAL AIRLINES HOLDINGS	U.S.	5,551.0	11.7	(305.7)	44		3,523.0	43	(3,740.2)	47
28	28	SAS	SWEDEN	5,340.9	0.8	(220.0)**	38		7,293.2	30	1,735.2	24
29	37	BILSPEDITION	SWEDEN	5,013.7	22.0	63.2**	15	30.1	2,101.5	46	569.9	41
30	30	TRANSNET	SOUTH AFRICA	4,812.4	10.4	198.9	9	—	14,669.6	10	5,131.6	4
31	35	MITSUI O.S.K. LINES	JAPAN	4,784.6	12.2	16.9	25	49.4	6,973.9	32	1,038.1	36
32	34	ALITALIA	ITALY	4,733.5	3.3	(28.7)	33		6,596.9	33	1,154.1	34
33	31	NORFOLK SOUTHERN	U.S.	4,574.0	3.6	29.7	24	94.7	10,148.1	16	4,093.4	8
34	32	BURLINGTON NORTHERN	U.S.	4,564.0	2.3	(320.0)	45	235.6	6,324.0	37	1,202.0	33
35	38	SWIRE PACIFIC	HONG KONG	4,327.2	8.1	396.4	6	26.1	8,193.0	25	4,477.6	5
36	41	SWISSAIR	SWITZERLAND	4,280.5	15.5	57.9	17		6,546.5	34	1,979.4	21
37	42	KLM ROYAL DUTCH AIRLINES	NETHERLANDS	4,179.3	13.3	65.8**	13		8,004.5	27	1,480.7	29
38	40	SCHWEIZERISCHE BUNDESBAHNEN	SWITZERLAND	4,101.3	6.2	(20.2)	32	1,036.9	14,298.2	11	N.A.	
39	36	CONSOLIDATED FREIGHTWAYS	U.S.	4,092.8	2.8	(40.4)	34		2,285.5	47	547.1	43
40	●	ODAKYU ELECTRIC RAILWAY	JAPAN	4,072.6	44.6	45.9	20	5.0	6,429.1	36	1,012.3	37
41	47	SEIBU RAILWAY	JAPAN	3,986.2	13.3	3.4	28	14.6	7,156.7	31	346.0	45
42	45	KAWASAKI KISEN	JAPAN	3,905.3	9.6	32.7	23		3,902.1	41	415.6	44
43	46	TNT	AUSTRALIA	3,853.0	9.1	(110.3)	36	219.8	3,349.9	44	632.6	40
44	●	YAMATO TRANSPORT	JAPAN	3,834.4	13.7	58.9	16	34.3	2,734.2	48	1,066.8	35
45	43	IBERIA AIRLINES	SPAIN	3,800.4	3.2	(339.0)	48	—	5,425.4	40	559.9	42
46	●	SJ GROUP	SWEDEN	3,688.7	8.4	45.0‡	21	46.4	3,552.5‡	42	930.2	38
47	33	TRANS WORLD AIRLINES	U.S.	3,687.9	20.6	34.6	22		2,683.0	46	(797.9)	46
48	44	NEDLLOYD GROUP	NETHERLANDS	3,608.0	2.0	77.5**	12		2,081.0	49	822.7	39
49	●	ÖSTERREICHISCHE BUNDESBAHNEN	AUSTRIA	3,540.4	4.3	10.0	26	14.2	20,285.0	5	9,757.9	1
50	48	CANADIAN NATIONAL RAILWAY	CANADA	3,538.2	1.2	(12.4)	31	(287.4)	6,025.9	38	2,055.4	13
TOTALS				356,430.8		(1,642.6)			561,849.8		106,171.2	

CONTINUED

N.A. Not available
● Not on last year's list
— Government owned
** Reflects an extraordinary credit of at least 10%; see the explanation of "profits" and "earnings per share" on page 225.
‡ Reflects an extraordinary charge of at least 10%; see the explanation of "profits" and "earnings per share" on page 225.

Consolidated operating revenues include those from non-transportation activities; other income and sales from discontinued operations when published. All companies must derive more than 50% of their operating revenues from common carrier operations and file public financial statements. All figures are for the year ended December 31, 1991, unless otherwise noted.

† Figures are unconsolidated.
‡ Figures are for fiscal year ended March 31, 1992.
§ Figures are for fiscal year ended June 30, 1991.
¶ Figures are for fiscal year ended May 31, 1991.
# Figures are for fiscal year ended March 31, 1991.

THE 50 LARGEST UTILITIES

1991	1990	Companies ranked by assets		ASSETS $ millions	ASSETS % change from 1990	REVENUES $ millions	REVENUES Rank	REVENUES % change from 1990	PROFITS $ millions	PROFITS Rank	PROFITS % change from 1990	STOCKHOLDERS' EQUITY $ millions	STOCKHOLDERS' EQUITY Rank
1	1	ELECTRICITE DE FRANCE	FRANCE	123,755.2	2.9	34,738.7	1	15.8	245.3	38	898.0	2,914.7	43
2	12	STET	ITALY	90,303.6	191.4	18,525.1	7	11.2	783.3	15	2.0	10,662.3	9
3	2	TOKYO ELECTRIC POWER	JAPAN	87,474.7	10.9	34,594.5	2	11.1	564.2	21	35.3	10,514.6	10
4	3	DEUTSCHE BUNDESPOST TELEKOM	GERMANY	85,526.3	10.3	28,356.0	3	12.9	283.6	37	2.5	23,124.1	2
5	●	BRITISH GAS	BRITAIN	48,450.9	—	19,362.3	6	—	1,700.8	3	—	34,557.4	1
6	4	KANSAI ELECTRIC POWER	JAPAN	44,621.5	9.1	17,599.1	8	10.4	544.5	23	37.0	7,848.9	19
7	9	GTE	U.S.	42,437.0	25.7	21,823.0	5	18.8	1,580.0	4	2.5	11,313.0	7
8	7	TELEFONICA DE ESPANA	SPAIN	38,750.4	2.7	11,420.0	13	36.6	1,003.6	10	35.0	13,859.9	4
9	8	ONTARIO HYDRO	CANADA	37,414.8	10.3	6,229.4	30	12.0	177.9	42	60.8	5,726.8	29
10	6	BT	BRITAIN	37,299.2	3.9	23,139.7	4	4.7	3,546.3	1	17.7	20,408.5	3
11	10	CHUBU ELECTRIC POWER	JAPAN	36,836.5	2.2	14,502.2	10	11.3	463.3	29	114.6	6,667.1	24
12	11	HYDRO QUEBEC	CANADA	36,209.6	4.5	5,480.2	35	8.6	662.8	18	91.3	8,130.3	16
13	23	IBERDROLA	SPAIN	31,592.4	121.4	8,576.1	21	31.6	679.9	17	115.0	11,192.0	8
14	13	BELLSOUTH	U.S.	30,941.7	2.4	14,522.9	9	0.6	1,471.5	5	9.8	13,104.9	5
15	14	BELL ATLANTIC	U.S.	27,881.6	0.4	12,279.7	12	0.1	(222.7)	48	117.0	7,831.3	20
16	15	US WEST	U.S.	27,854.1	3.0	10,577.2	15	6.2	553.4	22	53.8	9,587.4	11
17	16	NYNEX	U.S.	27,502.6	3.2	13,228.8	11	2.6	600.8	19	36.7	9,111.9	12
18	17	KYUSHU ELECTRIC POWER	JAPAN	24,869.7	10.7	9,146.4	20	10.0	289.8	35	24.1	3,976.1	37
19	18	SOUTHWESTERN BELL	U.S.	23,179.4	4.4	9,331.9	19	2.4	1,075.8	7	2.3	8,859.2	13
20	19	PACIFIC GAS & ELECTRIC	U.S.	22,900.7	4.3	9,872.3	17	2.9	1,026.4	8	4.0	8,576.2	14
21	22	TAIPOWER	TAIWAN	22,401.5	6.2	6,249.3	29	1.3	934.2	11	0.6	13,031.1	6
22	20	AMERITECH	U.S.	22,289.7	2.6	10,818.4	14	1.5	1,165.5	6	7.0	8,097.0	17
23	21	PACIFIC TELESIS GROUP	U.S.	21,838.0	1.2	9,695.0	16	1.8	1,015.0	9	1.5	7,729.0	21
24	46	ÖSTERREICHISCHE POST	AUSTRIA	20,575.8	66.3	4,256.0	41	1.5	358.0	34	29.2	N.A.	
25	26	TOHOKU ELECTRIC POWER	JAPAN	19,990.3	15.2	9,427.8	18	13.5	363.2	32	43.2	3,942.8	38
26	23	SOUTHERN	U.S.	19,863.0	0.9	8,080.0	23	1.0	876.0	12	45.0	8,183.0	15
27	24	TEXAS UTILITIES	U.S.	18,792.8	0.8	4,893.2	34	7.7	(410.0)	49	144.2	7,291.4	22
28	●	PTT SUISSES	SWITZERLAND	18,705.5	26.8	8,060.0	24	55.2	(203.6)	47		1,329.2	48
29	25	COMMONWEALTH EDISON	U.S.	17,365.3	2.9	6,275.5	28	19.3	94.9	43	26.0	6,180.9	26
30	28	SCECORP	U.S.	16,828.2	3.2	7,614.1	25	3.6	702.6	16	10.7	6,039.6	27
31	30	CHUGOKU ELECTRIC POWER	JAPAN	16,165.5	6.4	7,128.3	26	11.8	230.1	41	91.0	2,885.2	44
32	29	PTT NEDERLAND	NETHERLANDS	15,362.6	0.4	8,117.6	22	4.2	863.1	13	0.4	6,332.5	25
33	34	BELL CANADA	CANADA	14,849.0	3.8	6,740.4	27	2.7	859.9	14	3.8	7,101.2	23
34	36	PUBLIC SERVICE ENTERPRISE GROUP	U.S.	14,824.4	3.7	5,093.2	37	6.1	544.3	24	0.4	4,763.2	31
35	31	ESKOM	SOUTH AFRICA	14,671.7	3.0	4,254.2	42	2.5	358.4	33	9.7	3,997.4	36
36	32	ENTERGY	U.S.	14,383.1	3.0	4,051.4	43	1.7	482.0	28	0.8	4,207.9	35
37	33	ENDESA	SPAIN	14,380.0		N.A.			N.A.			N.A.	
38	37	AMERICAN ELECTRIC POWER	U.S.	14,125.3	1.0	5,046.6	38	2.3	497.9	27	0.3	4,222.3	34
39	39	VATTENFALL	SWEDEN	13,930.0	5.1	3,721.4	48	9.8	289.3	36	112.9	1,420.0	47
40	42	PACIFICORP	U.S.	13,228.8	6.9	4,007.0	44	5.9	507.2	26	7.0	3,854.0	39
41	43	TELE-COMMUNICATIONS	U.S.	13,010.0	9.7	3,627.0	46	5.6	(102.0)	46		1,439.0	46
42	41	PHILADELPHIA ELECTRIC	U.S.	12,558.4	0.1	3,975.8	45	7.3	534.7	25	149.6	4,314.8	33
43	38	ELECTRABEL	BELGIUM	12,351.3	9.8	5,689.1	34	14.0	8.2	45	98.8	5,748.1	28
44	●	TELEFONOS DE MEXICO	MEXICO	12,182.2	26.2	5,391.2	36	34.0	2,314.3	2	96.8	7,920.2	18
45	44	CENTERIOR ENERGY	U.S.	12,042.1	1.2	2,560.3	49	8.1	237.2	40	(10.3)	3,281.8	42
46	45	HOUSTON INDUSTRIES	U.S.	12,028.8	1.3	4,464.9	40	6.9	417.4	31	23.0	3,682.3	41
47	40	FPL GROUP	U.S.	11,281.8	12.9	5,963.4	31	5.2	240.6	39	—	3,700.1	40
48	47	DOMINION RESOURCES	U.S.	11,201.4	1.9	3,785.7	47	6.1	459.9	30	3.2	4,342.8	32
49	48	CONSOLIDATED EDISON OF NEW YORK	U.S.	11,107.9	4.0	5,873.1	32	1.9	566.9	20	0.8	5,200.0	30
50	●	TELEVERKET	SWEDEN	10,615.1	4.3	5,734.0	33	8.1	9.4	44	(69.6)	2,781.8	45
TOTALS				1,388,751.5		494,299.2			31,245.3			370,985.2	

N.A. Not available
● Not on last year's list
Government owned
Foreign affiliate
Assets are shown as of December 31, 1991, unless otherwise noted

Gross receipts from operations during 1991 include non-utility revenues from manufacturing, transportation, and other activities, other income, and revenues from discontinued operations after they are published. All companies on the list must derive more than 50% of their revenues from utility operations.
Figures are unconsolidated.
Figures are for fiscal year ended March 31, 1992.
Acquired Hidroelectrica Española in July 1991. (1990 Global Service rank: U-27); and name changed from Iberduero. Figures are aggregated.
Figures are for fiscal year ended June 30, 1991.
Name changed from American Information Technologies, April 1991.

HIGHLIGHTS

DEFINITIONS AND EXPLANATIONS

SALES/REVENUES

Sales of consolidated subsidiaries are included. Sales from discontinued operations are also included if these figures are published. Figures for non-U.S. companies have been converted to dollars using the average official exchange rate during each company's fiscal year (ended December 31, 1991, unless otherwise noted).

ASSETS

Assets shown are those at the company's fiscal year-end. Figures for non-U.S. companies have been converted to dollars at the official exchange rate at each company's fiscal year-end.

PROFITS

Profits are shown after taxes and after extraordinary credits or charges if any appear on the income statement. A double asterisk (**) signifies an extraordinary credit reflecting at least 10% of the profits shown; a double dagger (‡) an extraordinary charge of at least 10%. Figures in parentheses indicate a loss. Profit declines over 100% reflect swings from 1990 profits to 1991 losses. Cooperatives provide only "net margin" figures, not comparable with the profit figures in these listings, and therefore N.A. is shown in that column. Figures for non-U.S. companies have been converted to dollars at the average official exchange rate during each company's fiscal year.

STOCKHOLDERS' EQUITY

Stockholders' equity is the sum of capital stock, surplus, and retained earnings at the company's year-end. Minority interest is not included. Figures for non-U.S. companies have been converted to dollars at the official exchange rate at each company's fiscal year-end.

Most of the figures in the FORTUNE Global Service 500 Directory were prepared by reporters Thomas J. Martin and Kevin S. Moran.

ARRIVALS AND DEPARTURES

NEWCOMERS TO THE 500*

	GLOBAL SERVICE 500 RANK
BANCO DE SANTANDER	B-99
BANCO ESPAÑOL DE CRÉDITO	B-81
BERGEN BRUNSWIG	S-95
BRITISH GAS	U-5
CAIXA GALICIA	I-44
COMMONWEALTH BANKING	B-86
CREDIT COMMUNAL DE BELGIQUE	B-93
FEDERATED DEPARTMENT STORES	R-46
GTM-ENTREPOSE	S-99
IMASCO	R-45
ING GROUP	F-1
KREDIETBANK	B-92
LUCKY-GOLDSTAR INTL.	S-94
NORTHERN ROCK BLDG. SOCIETY	I-48
ODAKYU ELECTRIC RAILWAY	T-40
ÖSTERREICHISCHE BUNDESBAHNEN	T-49
PAINE WEBBER GROUP	F-48
POLIET	S-68
PRICE	R-48
PTT SUISSES	U-28
QUELLE GROUP	R-37
REWE-HANDELSGRUPPE	R-7
SANLAM	L-45
SHIZUOKA BANK	B-100
SI GROUP	T-46
SPAR HANDELS	R-44
SPARKASSE IN BREMEN	I-49
SUN LIFE	L-46
TELÉFONOS DE MEXICO	U-44
TELEVERKET	U-50
TOKYU CONSTRUCTION	S-92
YAMATO TRANSPORT	T-44
YORKSHIRE BLDG. SOCIETY	I-50

DISPLACED FROM THE 500

AG-AMEV/VSB
BANK OF SEOUL
BET
BOOTS
CENTRAL CAPITAL
CHUO TRUST & BANKING
CONSOLIDATED RAIL
CROSSLAND SAVINGS
CTT SCETA
DAIMARU
DETROIT EDISON
ELDERS IXL
FRANCE TELECOM
GIB GROUP
GOLDOME
GREAT AMERICAN BANK
HIDROELECTRICA ESPANOLA
KEIO TEITO ELECTRIC RAILWAY
KIEWIT (PETER) SONS'
KONSUM
LINCOLN NATIONAL
MANUFACTURERS HANOVER CORP.
ODEBRECHT
PAN AM
REWE BAD HOMBURG
RWE ENERGIE
SAITAMA BANK
SCHENKER
SUN ALLIANCE GROUP
SUPERMARKETS GENERAL
TAIYO KOBE BANK
TRUSTHOUSE
VOLKSFÜRSORGE DEUTSCH

* The arrivals and departures reflect annual data through March 31, 1992. In prior years, arrivals and departures were based on the calendar year. Figures were not made public.
† Consolidated in figures of SNCF (rank: T-1).
‡ Acquired by Foster's Brewing (1991 Global Industrial 500 rank: 266).
§ Resolved; assets sold by federal regulators.
¶ Had no actively traded stock as of December 31, 1991.
# Acquired by Iberdrola (rank: U-13).
Merged with Chemical Banking Corp. (rank: B-42).
** Liquidated.
†† Consolidated in figures of REWE-Handelsgruppe (rank: R-7).
‡‡ Merged with Kyowa Bank (1990 rank: B-51) to form Kyowa Saitama Bank (rank: B-23).
§§ Consolidated in figures of Sakura Bank (rank: B-4).
¶¶ Consolidated in figures of Volksfursorge Holding (rank: L-42).

INDUSTRY MEDIANS

RETURN ON ASSETS[1]

1	RETAILING	3.2%
2	UTILITIES	2.2
3	DIVERSIFIED SERVICE	1.3
4	DIVERSIFIED FINANCIALS	0.6
5	SAVINGS INSTITUTIONS	0.5
6	TRANSPORTATION	0.2
7	COMMERCIAL BANKS	0.2
GLOBAL SERVICE 500 MEDIAN		0.6

RETURN ON SALES/REVENUES[2]

1	UTILITIES	8.4%
2	DIVERSIFIED FINANC'	3.7
3	RETAILING	1.5
4	DIVERSIFIED SERVICE	0.9
5	TRANSPORTATION	0.4
GLOBAL SERVICE 500 MEDIAN		1.7

CHANGE IN SALES/REVENUES[3]

1	RETAILERS	9.2%
2	TRANSPORTATION	7.9
3	DIVERSIFIED SERVICE	6.1
4	UTILITIES	6.1
5	DIVERSIFIED FINANCIALS	5.9
GLOBAL SERVICE 500 MEDIAN		6.3

ASSETS PER EMPLOYEE

1	COMMERCIAL BANKS	$6,350,995
2	SAVINGS INSTITUTIONS	4,220,936
3	DIVERSIFIED FINANCIALS	2,887,667
4	LIFE INSURANCE	2,399,237
5	UTILITIES	729,995
6	DIVERSIFIED SERVICE	269,042
7	TRANSPORTATION	186,561
8	RETAILING	68,811
GLOBAL SERVICE 500 MEDIAN		1,801,655

SALES PER EMPLOYEE[4]

1	DIVERSIFIED FINANCIALS	$461,928
2	DIVERSIFIED SERVICE	353,538
3	UTILITIES	264,908
4	TRANSPORTATION	143,743
5	RETAILING	143,419
GLOBAL SERVICE 500 MEDIAN		279,062

[1] Life insurance companies are not included.
[2] Commercial banks, savings institutions, and life insurance companies are not included.

CONTINUED

THE GLOBAL SERVICE 500 PERFORMANCE

Even in dismal times there are some bright spots. U.S. retailers had a satisfying year. Profits rose at Sears Roebuck (41.8%), at Wal-Mart (24.6%), and at Kmart (13.6%). And it was a fabulous year for three Swedish banks, whose profits increased by more than 1,000%, largely because of changes in Sweden's tax laws. Retailers had the highest return on assets (3.2%) as a group and utilities the highest return—by far—on sales (8.4%). One utility, in particular, deserves to be singled out: Teléfonos de México, the publicly held phone company that is a lowly No. 44 on FORTUNE's list of the 50 largest utilities. It made its entrance onto the list in a grand way, recording the highest return on revenues (43%) and assets (19%) of any company on the Global Service 500.

BIGGEST INCREASES IN SALES/REVENUES

RANK		GLOBAL SERVICE 500 RANK	SALES/ REVENUES % change from 1990	SALES/ REVENUES $ millions
1	IBERDROLA	U-13	131.6	8,576.1
2	IMASCO	R-45	85.6	6,939.9
3	POLIET	S-68	77.8	6,368.5
4	ITO-YOKADO	R-5	69.7	22,031.7
5	AMER. TELEPHONE & TELEGRAPH	S-7	68.9	63,314.0
6	ASKO DEUTSCHES KAUFHAUS	R-20	60.5	10,840.1
7	CIE GÉNÉRALE DES EAUX	S-15	52.9	23,925.9
8	FEDERATED DEPT. STORES	R-46	51.5	6,932.3
9	IRITECNA	S-53	48.2	7,251.4
10	ODAKYU ELECTRIC RAILWAY	T-40	44.6	4,072.6
11	HYUNDAI	S-24	42.4	12,757.1
12	CORTE INGLÉS	R-39	40.3	8,198.7
13	TELEFÓNICA DE ESPAÑA	U-8	36.6	11,420.0
14	SPAR HANDELS	R-44	36.5	7,108.4
15	WAL-MART STORES	R-2	35.9	44,289.4
16	TELÉFONOS DE MÉXICO	U-44	34.0	5,391.2
17	RWE GROUP	S-14	27.0	27,722.8
18	CARREFOUR	R-10	25.9	17,800.0
19	OTTO VERSAND	R-34	25.9	8,769.7
20	HYUNDAI ENGINEERING	S-78	25.7	5,747.5
21	PROMODÈS	R-16	25.6	13,542.4
22	WASTE MANAGEMENT	S-49	25.1	7,606.7
23	ALLIANZ HOLDING	F-6	25.0	29,389.4
24	PRICE	R-48	24.4	6,756.0
25	THYSSEN HANDELSUNION	S-40	23.7	9,375.5
26	GTM-ENTREPOSE	S-99	23.1	4,770.2
27	KAJIMA	S-18	22.9	16,782.3
28	SHIMIZU	S-16	22.7	17,705.5
29	MCKESSON	S-36	22.5	10,312.6
30	NIPPON EXPRESS	T-5	22.2	13,286.3
31	TOSHOKU	S-60	22.1	6,705.4
32	BILSPEDITION	T-29	22.0	5,013.7
33	NIPPON SHINPAN	F-17	20.8	2,871.9
34	JARDINE MATHESON	S-52	20.7	7,284.2
35	HUMANA	S-72	20.6	5,928.0
36	OBAYASHI	S-28	20.4	11,711.7
37	TOKYU CONSTRUCTION	S-92	20.2	4,906.4
38	CARGILL	S-10	19.9	49,148.0
39	COMMONWEALTH EDISON	U-29	19.3	6,275.5
40	ORIENT	F-16	19.2	3,556.3
41	CREDIOP	F-31	18.8	3,779.9
42	GTE	U-7	18.8	21,823.0
43	KAUFHOF	R-32	18.1	9,349.7
44	GAN	F-5	16.9	20,510.0
45	DAIEI	R-9	16.8	18,889.6
46	ELECTRONIC DATA SYSTEMS	S-54	16.2	7,099.0
47	FUJITA	S-65	16.1	6,461.4
48	DAIWA HOUSE INDUSTRY	S-57	16.0	6,819.8
49	KONINLIJKE AHOLD	R-21	15.8	10,768.5
50	ÉLECTRICITÉ DE FRANCE	U-1	15.8	34,738.7
	THE 500 MEDIAN		6.3	

Commercial banks, savings institutions, and life insurance companies are not included.
B—BANKING F—FINANCIAL I—SAVINGS L—LIFE INSURANCE R—RETAILING S—SERVICE T—TRANSPORTATION U—UTILITIES

CONTINUED

THE GLOBAL SERVICE 500 RANKED BY

PERFORMANCE

HIGHEST PROFITS

RANK		GLOBAL SERVICE 500 RANK	PROFITS $ millions	PROFITS % change from 1990
1	BT	U-10	3,546.3	(7.7)
2	TRYGG-HANSA SPP	F-23	2,398.7	44.9
3	TELEFONOS DE MEXICO	U-44	2,314.3	96.8
4	SVENSKA HANDELSBANKEN	B-80	1,851.1	1,294.8
5	BANK OF CHINA	B-22	1,816.1	39.4
6	SKANDIN. ENSKILDA BANKEN	B-74	1,729.2	1,596.8
7	BRITISH GAS	U-5	1,700.8	.0
8	WAL-MART STORES	R-2	1,608.5	24.6
9	GTE	U-7	1,580.0	2.5
10	AMERICAN INTL. GROUP	F-11	1,553.0	7.7
11	BELLSOUTH	U-14	1,471.5	(9.8)
12	NIPPON TEL. & TEL.	S-11	1,431.0	(14.2)
13	FED. NATL. MORTGAGE ASSN.	F-3	1,363.0	16.2
14	SEARS ROEBUCK	R-1	1,278.9	41.8
15	AMERITECH	U-22	1,165.5	(7.0)
16	BCE	S-17	1,159.0	17.8
17	J.P. MORGAN & CO.	B-59	1,146.0	14.0
18	BANKAMERICA CORP.	B-51	1,124.0	.8
19	HONGKONG & SHANGHAI BANK.	B-32	1,097.0	176.0
20	SOUTHWESTERN BELL	U-19	1,075.8	(2.3)
21	PACIFIC GAS & ELECTRIC	U-20	1,026.4	4.0
22	PACIFIC TELESIS GROUP	U-23	1,015.0	(1.5)
23	TELEFONICA DE ESPANA	U-8	1,003.6	35.0
24	BANCO BILBAO VIZCAYA	B-66	990.3	(.4)
25	TAIPOWER	U-21	934.2	.6
26	LOEWS	F-30	904.3	12.4
27	SOUTHERN	U-26	876.0	45.0
28	CREDIT AGRICOLE	B-9	874.6	1.4
29	SUMITOMO BANK	B-2	874.5	(14.3)
30	PTT NEDERLAND	U-32	863.1	.4
31	BELL CANADA	U-33	859.9	3.8
32	MCDONALD'S	R-50	859.6	7.1
33	KMART	R-3	859.0	13.6
34	ROYAL BANK OF CANADA	B-49	855.2	3.4
35	UNION BANK OF SWITZERLAND	B-28	847.9	31.4
36	ING GROUP	F-1	841.7	.0
37	FEDERATED DEPT. STORES	R-46	836.4	.0
38	DEUTSCHE BANK	B-11	834.5	31.7
39	ABN AMRO HOLDING	B-18	821.4	12.9
40	BASS	S-59	818.1	2.7
41	ITT	F-18	817.0	(14.7)
42	SCHLUMBERGER	S-70	815.7	43.0
43	SANWA BANK	B-5	800.5	.3
44	AMERICAN EXPRESS	F-4	789.0	335.9
45	STET	U-2	783.3	(2.0)
46	J. SAINSBURY	R-15	760.3	15.9
47	HALIFAX BUILDING SOCIETY	I-2	754.8	9.5
48	BANCO CENTRAL-HISPANO	B-64	737.2	45.7
49	ABBEY NATIONAL	I-1	732.1	8.8
50	BAT INDUSTRIES	F-20	728.6	(51.0)
THE 500 MEDIAN			176.1	

Life insurance companies are not included in this table.

BIGGEST INCREASES IN PROFITS

RANK		GLOBAL SERVICE 500 RANK	PROFITS % change from 1990	PROFITS $ millions
1	PROVIGO	S-77	6,942.9	42.3
2	SKANDIN. ENSKILDA BANKEN	B-74	1,596.8	1,729.2
3	SWEDBANK	B-87	1,576.7	434.3
4	COAST SAVINGS FINANCIAL	I-46	1,349.9	41.7
5	SVENSKA HANDELSBANKEN	B-80	1,294.8	1,851.1
6	SNAM	T-10	1,013.8	683.9
7	ELECTRICITE DE FRANCE	U-1	898.0	245.3
8	PRUDENTIAL OF AMERICA	L-3	590.6	1,386.7
9	LINCOLN NATIONAL LIFE	L-37	502.1	210.8
10	AMERICAN EXPRESS	F-4	335.9	789.0
11	BRITISH AIRWAYS	T-13	290.6	685.3
12	NORTHWESTERN MUTUAL LIFE	L-24	275.0	538.5
13	WESTDEUTSCHE LANDESBANK	B-36	271.7	137.3
14	FIRSTFED MICHIGAN CORP.	I-43	269.6	34.0
15	MERRILL LYNCH	F-10	262.8	696.1
16	PRUDENTIAL	L-7	260.6	153.8
17	BANK MELLI IRAN	B-46	257.0	30.0
18	AMERICAN FINANCIAL	S-90	225.2	72.3
19	HONGKONG & SHANGHAI BNKG.	B-32	176.0	1,097.0
20	PHILADELPHIA ELECTRIC	U-42	149.6	534.7
21	NATL. MUT. LIFE OF AUSTRALIA	L-44	128.9	1,069.4
22	IBERDROLA	U-13	115.0	679.9
23	CHUBU ELECTRIC POWER	U-11	114.6	463.3
24	VATTENFALL	U-39	112.9	289.3
25	AXEL JOHNSON	S-88	105.1	21.6
26	BANQUE NATIONALE DE PARIS	B-12	104.4	606.8
27	NIPPON CREDIT BANK	B-43	98.9	308.6
28	TELEFONOS DE MEXICO	U-44	96.8	2,314.3
29	HYDRO QUEBEC	U-12	91.3	662.8
30	TRILON FINANCIAL	I-11	87.8	95.1
31	CONNECTICUT GENERAL LIFE	L-19	85.4	453.5
32	MCI COMMUNICATIONS	S-47	84.3	551.0
33	MUTUAL OF NEW YORK	L-49	83.2	260.1
34	MASS. MUTUAL LIFE	L-31	81.8	176.8
35	LONG-TERM CREDIT BANK	B-16	79.9	471.4
36	OLD MUTUAL	L-38	78.0	3,909.1
37	SPARKASSE IN BREMEN	I-49	77.2	22.3
38	LANDESBANK HESSEN	B-96	77.0	53.4
39	MORGAN STANLEY GROUP	F-13	75.7	475.1
40	MARRIOTT	S-44	74.5	82.0
41	COMMONWEALTH BANKING	B-86	71.8	592.6
42	MANUFACTURERS LIFE INS.	L-32	71.7	182.3
43	AXA	F-34	71.0	492.1
44	NATIONAL & PROVINCIAL	I-25	68.6	117.9
45	JARDINE MATHESON	S-52	68.2	380.7
46	SALOMON	F-8	67.3	507.0
47	STANDARD FEDERAL BANK	I-42	64.2	65.8
48	NASSAUISCHE SPARKASSE	I-38	62.6	27.1
49	BAYERISCHE LANDESBANK	B-48	61.9	176.1
50	ONTARIO HYDRO	U-9	60.8	177.9
THE 500 MEDIAN			2.1	

Net income for life insurance companies is based on statutory accounting. Excludes companies that lost money in 1990.

B—BANKING F—FINANCIAL I—SAVINGS L—LIFE INSURANCE R—RETAILING S—SERVICE T—TRANSPORTATION U—UTILITIES

CONTINUED

THE GLOBAL SERVICE 500 RANKED BY

PERFORMANCE

HIGHEST RETURNS ON . . . SALES/REVENUES

RANK		GLOBAL SERVICE 500 RANK	PROFITS as % of sales/ revenues
1	TELÉFONOS DE MÉXICO	U-44	42.9
2	TRYGG-HANSA SPP	F-23	34.8
3	IMI	F-27	26.1
4	BT	U-10	15.3
5	TAIPOWER	U-21	14.9
6	PHILADELPHIA ELECTRIC	U-42	13.4
7	FED. HOME LOAN MORTGAGE	F-24	13.2
8	SCHLUMBERGER	S-70	13.0
9	MCDONALD'S	R-50	12.8
10	BELL CANADA	U-33	12.8
11	PACIFICORP	U-40	12.7
12	DOMINION RESOURCES	U-48	12.1
13	BASS	S-59	12.1
14	HYDRO QUÉBEC	U-12	12.1
15	FEDERATED DEPT. STORES	R-46	12.1
16	ENTERGY	U-36	11.9
17	SOUTHWESTERN BELL	U-19	11.5
18	AMERICAN GENERAL	F-32	10.9
19	DUN & BRADSTREET	S-100	10.9
20	SOUTHERN	U-26	10.8
21	AMERITECH	U-22	10.8
22	PUBLIC SERVICE ENT. GROUP	U-34	10.7
23	PTT NEDERLAND	U-32	10.6
24	STUDENT LOAN MKTG. ASSN.	F-25	10.6
25	PACIFIC GAS & ELECTRIC	U-20	10.4
26	PACIFIC TELESIS GROUP	U-23	10.3
27	BELLSOUTH	U-14	10.1
28	WALT DISNEY	S-69	10.1
29	FED. NATL. MORTGAGE ASSN.	F-3	10.0
30	AMERICAN ELECTRIC POWER	U-38	9.9
31	AMERICAN INTL. GROUP	F-11	9.8
32	CONSOL. EDISON OF N.Y.	U-49	9.7
33	HOUSTON INDUSTRIES	U-46	9.3
34	CENTERIOR ENERGY	U-45	9.3
35	SCECORP	U-30	9.2
36	SWIRE PACIFIC	T-35	9.2
37	TELEFÓNICA DE ESPAÑA	U-8	8.8
38	BRITISH GAS	U-5	8.8
39	ESKOM	U-35	8.4
40	ÖSTERREICHISCHE POST	U-24	8.4
41	WASTE MANAGEMENT	S-49	8.0
42	IBERDROLA	U-13	7.9
43	VATTENFALL	U-39	7.8
44	ELECTRONIC DATA SYSTEMS	S-54	7.7
45	BRITISH AIRWAYS	T-13	7.6
46	PRIMERICA	F-49	7.2
47	GTE	U-7	7.2
48	MORGAN STANLEY GROUP	F-13	7.0
49	MARKS & SPENCER	R-28	6.9
50	GUARDIAN ROYAL EXCHANGE	F-50	6.9
	THE 500 MEDIAN		1.7

ASSETS

RANK		GLOBAL SERVICE 500 RANK	PROFITS as % of assets
1	TELÉFONOS DE MÉXICO	U-44	19.0
2	SCHLUMBERGER	S-70	11.9
3	ALBERTSON'S	R-35	11.6
4	FEDERATED DEPT. STORES	R-46	11.2
5	DUN & BRADSTREET	S-100	10.6
6	WAL-MART STORES	R-2	10.4
7	ELECTRONIC DATA SYSTEMS	S-54	9.6
8	BT	U-10	9.5
9	ARGYLL GROUP	R-38	9.5
10	TESCO	R-17	9.5
11	WINN-DIXIE STORES	R-26	9.4
12	MARKS & SPENCER	R-28	9.4
13	WALGREEN	R-49	9.3
14	J. SAINSBURY	R-15	9.3
15	MELVILLE	R-30	8.5
16	HUMANA	S-72	8.0
17	UNITED PARCEL SERVICE	T-2	7.9
18	SUPER VALU STORES	S-32	7.8
19	MCDONALD'S	R-50	7.6
20	BRITISH AIRWAYS	T-13	7.5
21	CORTE INGLÉS	R-39	7.4
22	BASS	S-59	7.3
23	PRICE	R-48	7.3
24	SYSCO	S-48	7.1
25	WALT DISNEY	S-69	6.8
26	FLUOR	S-58	6.6
27	COLES MYER	R-19	6.4
28	BOOKER	S-74	6.3
29	MCI COMMUNICATIONS	S-47	6.2
30	MAY DEPARTMENT STORES	R-22	5.9
31	ALCO STANDARD	S-93	5.8
32	BELL CANADA	U-33	5.8
33	INCHCAPE	S-67	5.8
34	PTT NEDERLAND	U-32	5.6
35	KMART	R-3	5.4
36	JARDINE MATHESON	S-52	5.3
37	AMERITECH	U-22	5.2
38	CAPITAL CITIES/ABC	S-85	5.1
39	CONSOL. EDISON OF N.Y.	U-49	5.1
40	TRYGG-HANSA SPP	F-23	5.1
41	BERGEN BRUNSWIG	S-95	4.9
42	SWIRE PACIFIC	T-35	4.8
43	WASTE MANAGEMENT	S-49	4.8
44	BELLSOUTH	U-14	4.8
45	KONINKLIJKE AHOLD	R-21	4.7
46	PACIFIC TELESIS GROUP	U-23	4.6
47	SOUTHWESTERN BELL	U-19	4.6
48	ITO-YOKADO	R-5	4.6
49	SNAM	T-10	4.5
50	PACIFIC GAS & ELECTRIC	U-20	4.5
	THE 500 MEDIAN		0.6

BIGGEST EMPLOYERS

RANK		GLOBAL SERVICE 500 RANK	Number of employees
1	SEARS ROEBUCK	R-1	450,000
2	WAL-MART STORES	R-2	364,000
3	KMART	R-3	348,000
4	AMERICAN TEL. & TEL.	S-7	317,100
5	UNITED PARCEL SERVICE	T-2	256,076
6	DEUTSCHE BUNDESPOST	U-4	255,000
7	NIPPON TEL. & TEL.	S-11	249,942
8	DEUTSCHE BUNDESBAHN	T-3	231,770
9	BT	U-10	210,500
10	MARRIOTT	S-44	202,000
11	CIE GÉNÉRALE DES EAUX	S-15	198,550
12	SNCF	T-1	196,000
13	TENGELMANN	R-4	191,293
14	J.C. PENNEY	R-11	185,000
15	KROGER	R-6	170,000
16	MCDONALD'S	R-50	168,000
17	TRANSNET	T-30	164,196
18	GTE	U-7	162,000
19	DAYTON HUDSON	R-12	157,000
20	LONRHO	S-41	151,180
21	REWE-HANDELSGRUPPE	R-7	150,000
22	AMERICAN STORES	R-8	148,000
23	WOOLWORTH	R-29	144,000
24	COLES MYER	R-19	143,182
25	BRITISH RAILWAYS BOARD	T-22	138,001
26	ARA GROUP	S-97	135,000
27	STET	U-2	129,492
28	BCE	S-17	124,000
29	ÉLECTRICITÉ DE FRANCE	U-1	120,032
30	VEBA	S-13	116,979
31	AMR	T-6	116,264
32	MAY DEPARTMENT STORES	R-22	115,000
33	BANCO DO BRASIL	B-84	114,614
34	BARCLAYS BANK	B-15	111,400
35	AMERICAN EXPRESS	F-4	110,728
36	MELVILLE	R-30	110,148
37	SAFEWAY	R-14	110,064
38	ITT	F-18	110,000
39	WINN-DIXIE STORES	R-26	106,000
40	BAT INDUSTRIES	F-20	105,855
41	NATIONAL WESTMINSTER	B-21	102,400
42	NIPPON LIFE	L-1	102,212
43	RWE GROUP	S-14	102,190
44	BANK OF CHINA	B-22	101,849
45	PTT NEDERLAND	U-32	100,664
46	BELLSOUTH	U-14	96,084
47	BASS	S-59	88,012
48	TESCO	R-17	87,033
49	CITICORP	B-25	86,000
50	SUMITOMO LIFE INSURANCE	L-4	84,268
	THE 500 MEDIAN		19,087

Returns on sales/revenues excludes commercial banks, savings institutions, and life insurance companies. Returns on assets excludes life insurance companies.
B—BANKING F—FINANCIAL I—SAVINGS L—LIFE INSURANCE R—RETAILING S—SERVICE T—TRANSPORTATION U—UTILITIES

CONTINUED

THE GLOBAL SERVICE 500 BY COUNTRY

The United States still has the most companies—139—on the Global Service 500. But that is 11 fewer than last year. Japan increased its share from 106 to 113. Britain (43), which lost six companies, was displaced by Germany (44) in the third spot. France (31) lost two companies but maintained fifth place. South Korea (3) and Brazil (1) each lost one; the remaining Brazilian company, Banco do Brasil, is South America's sole representative on the Global Service 500. India dropped off the list entirely. South Africa, the only African country in the rankings, doubled its number of companies to four. Spain (16) added two, and Hong Kong (3) and China (2) each gained one. Mexico joined the list with Teléfonos de México, one of the very few stars of the Global Service 500.

Two American companies—AT&T and Cargill—cracked the top ten in diversified services. Last year all ten were Japanese trading companies known as the *sogo shosha*. But the Japanese still dominate the list, with 35 of 100 companies. They also hold sway over commercial banking, with eight of the top ten banks and 26 of the top 100. The largest U.S. bank—Citicorp—slipped to 25th place from 22nd. This year, as last, the U.S. leads in only one category: retailing, where the three biggest companies are American. Japan heads insurance, in addition to diversified services and commercial banking. French companies sit atop both the transportation and utilities lists.

COMPANY GLOBAL SERVICE 500 RANK	RANKED BY ASSETS IN COUNTRY	HEADQUARTERS	Phone*
AUSTRALIA & NEW ZEALAND BNKNG. B-76	2	Melbourne	61-3-658-2955
AUSTRALIAN MUTUAL PROVIDENT L-15	5	Sydney	61-2-257-5000
COLES MYER R-19	7	Tooronga	61-3-829-3111
COMMONWEALTH BANKING B-86	4	Sydney	61-2-227-7111
NATIONAL AUSTRALIA BANK B-79	3	Melbourne	61-3-641-3500
NATL. MUT. LIFE OF AUSTRALASIA L-44	6	Melbourne	61-3-616-3911
TNT T-43	8	Redfern	61-2-699-2222
WESTPAC BANKING B-70	1	Sydney	61-2-226-3311
AUSTRIA 5 COMPANIES			
GIRO. & BANK DER ÖSTERR. I-13	1	Vienna	43-1-71194-0
ÖSTERREICHISCHE BUNDESBAHNEN T-49	3	Vienna	43-1-5800-0
ÖSTERREICHISCHE POST U-24	2	Vienna	43-1-51551-0
BELGIUM 6 COMPANIES			
BANQUE BRUXELLES LAMBERT B-89	2	Brussels	32-2-547-2111
CRÉDIT COMMUNAL DE BELGIQUE B-93	4	Brussels	32-2-222-1111
DELHAIZE "LE LION" R-33	6	Brussels	32-2-412-2111
ELECTRABEL U-43	5	Brussels	32-3-518-6111
GENERALE BANK B-73	1	Brussels	32-2-516-2111
KREDIETBANK B-92	3	Brussels	32-2-517-4111
BRAZIL 1 COMPANY			
BANCO DO BRASIL B-84	1	Brasília	55-61-212-2465
BRITAIN 43 COMPANIES			
ABBEY NATIONAL I-1	4	London	44-71-612-4000
ALLIANCE & LEICESTER I-7	12	London	44-71-629-6661
ARGYLL GROUP R-38	41	Hayes	44-81-848-8744
BARCLAYS BANK B-15	1	London	44-71-488-1144
BASS S-59	28	Burton-upon-Trent	44-283-511000
BAT INDUSTRIES F-20	9	London	44-71-222-7979
BOOKER S-74	43	London	44-71-828-9850
BRADFORD & BINGLEY I-22	22	Bingley	44-274-555555

*Phone numbers include country and area codes.
B—BANKING F—FINANCIAL I—SAVINGS L—LIFE INSURANCE R—RETAILING S—SERVICE T—TRANSPORTATION U—UTILITIES

COMPANY GLOBAL SERVICE 500 RANK	RANKED BY ASSETS IN COUNTRY	HEADQUARTERS	Phone*
BRISTOL & WEST I-32	27	Bristol	44-272-294271
BRITANNIA BUILDING SOCIETY I-27	26	Leek	44-538-399399
BRITISH AIRWAYS T-13	31	Heathrow	44-81-759-5511
BRITISH GAS U-5	10	London	44-71-821-1444
BRITISH RAILWAYS BOARD T-22	34	London	44-71-928-5151
BT U-10	14	London	44-71-356-5000
CHELTENHAM & GLOUCESTER I-15	19	Gloucester	44-452-372372
COMMERCIAL UNION L-27	17	London	44-71-283-7500
GUARDIAN ROYAL EXCHANGE F-50	23	London	44-71-283-7101
HALIFAX BUILDING SOCIETY I-2	5	Halifax	44-422-333333
INCHCAPE S-67	42	London	44-71-321-0110
LADBROKE GROUP S-61	30	London	44-81-459-8031
LEEDS PERMANENT I-14	18	Leeds	44-632-438181
LEGAL & GENERAL L-23	15	London	44-71-528-6200
LLOYDS BANK B-65	6	London	44-71-626-1500
LONRHO S-41	38	London	44-71-606-9898
MARKS & SPENCER R-28	36	London	44-71-935-4422
MIDLAND BANK B-54	3	London	44-71-260-8000
NATIONAL & PROVINCIAL I-25	24	Bradford	44-274-733444
NATIONAL WESTMINSTER B-21	2	London	44-71-726-1000
NATIONWIDE ANGLIA I-4	8	London	44-71-242-8822
NORTHERN ROCK BLDG. SOCIETY I-48	32	Newcastle-on-Tyne	44-91-285-7191
NORWICH UNION L-26	16	Norwich	44-603-622200
PENIN. & ORIENT. STEAM NAV. T-14	29	London	44-71-930-4343
PRUDENTIAL L-7	7	London	44-71-405-9222
SAINSBURY (J.) R-15	33	London	44-71-921-6000
SCOTTISH WIDOWS' F&L L-34	20	Edinburgh	44-31-655-6000
STANDARD LIFE L-16	11	Edinburgh	44-31-225-2552
SUN LIFE L-46	25	London	44-71-606-7788
TARMAC S-80	40	Wolverhampton	44-902-307407
TESCO R-17	37	Cheshunt	44-992-32222
TRAFALGAR HOUSE S-76	39	London	44-71-499-9020
WARBURG (S.G.) GROUP F-45	21	London	44-71-606-1066
WOOLWICH BUILDING SOCIETY I-9	13	Bexleyheath	44-81-298-5000
YORKSHIRE BUILDING SOCIETY I-50	35	Bradford	44-274-734822

CANADA 27 COMPANIES

BANK OF MONTREAL B-68	3	Montreal	514-877-7110
BANK OF NOVA SCOTIA B-75	4	Toronto	416-866-6161
BCE S-17	7	Montreal	514-499-7000
BELL CANADA U-33	17	Montreal	514-870-1511
CANADIAN IMPERIAL BANK B-57	2	Toronto	416-980-2211
CANADIAN NATIONAL RAILWAY T-50	19	Montreal	514-399-5430
CANADIAN PACIFIC S-42	16	Montreal	514-395-5151
CONFEDERATION LIFE L-41	15	Toronto	416-323-8111
CONFÉDÉRATION DESJARDINS I-8	8	Levis, Quebec	418-835-2323
CT FINANCIAL SERVICES I-10	10	London	519-663-1938
HYDRO QUÉBEC U-12	11	Montreal	514-289-2211
IMASCO R-45	6	Montreal	514-982-9111
LOBLAW R-42	21	Toronto	416-922-2500
MANUFACTURERS LIFE INSURANCE L-32	14	Toronto	416-926-0100
NATIONAL TRUSTCO I-30	18	Toronto	416-361-3611
ONTARIO HYDRO U-9	9	Toronto	416-592-5111
PROVIGO S-77	22	Montreal	514-938-1250
ROYAL BANK OF CANADA B-49	1	Montreal	514-874-2110
SUN LIFE ASSURANCE OF CANADA L-29	13	Toronto	416-979-9966
TORONTO-DOMINION BANK B-95	5	Toronto	416-982-8222
TRILON FINANCIAL I-11	12	Toronto	416-363-0061
WESTON (GEORGE) S-39	20	Toronto	416-922-2500

CHINA 2 COMPANIES

BANK OF CHINA B-22	1	Beijing	86-1-6016688
SINOCHEM S-27	2	Beijing	86-1-831-6020

DENMARK 1 COMPANY

DEN DANSKE BANK B-94	1	Copenhagen	45-33-44-0000

FINLAND 1 COMPANY

KESKO S-56	1	Helsinki	358-0-87372

FRANCE 31 COMPANIES

AIR FRANCE T-7	22	Paris	33-1-4323-8181
ASSUR. GÉNÉRALES DE FRANCE F-14	15	Paris	33-1-4486-2000
AXA F-34	17	Paris	33-1-4075-5700
BANQUE INDOSUEZ B-83	14	Paris	33-1-4420-2020
BANQUE NATIONALE DE PARIS B-12	3	Paris	33-1-4014-4546
BOUYGUES S-29	21	St. Quentin-Yvel.	33-1-3060-2311
CARREFOUR R-10	24	Lisses	33-1-6086-9652
CIE DE SUEZ F-2	7	Paris	33-1-4006-6400
CIE GÉNÉRALE DES EAUX S-15	18	Paris	33-1-4924-4924
CNP L-33	19	Paris	33-1-4049-8888
CRÉDIT AGRICOLE B-9	1	Paris	33-1-4323-5202
CRÉDIT LYONNAIS B-10	2	Paris	33-1-4295-7000
CRÉDIT MUTUEL B-82	13	Paris	33-1-4401-1010
CRÉDIT NATIONAL F-43	20	Paris	33-1-4550-9000
ÉLECTRICITÉ DE FRANCE U-1	8	Paris	33-1-4042-2222
GAN F-5	9	Paris	33-1-4257-5000
GROUPE CAISSES D'ÉPARGNE B-31	6	Paris	33-1-4078-4078
GROUPE CASINO R-41	29	Saint-Etienne	33-7745-3131
GROUPE DES BANQUES POP. B-78	12	Paris	33-1-4039-6000
GTM-ENTREPOSE S-99	26	Nanterre	33-1-4695-7000
LECLERC (E.) R-13	—	Paris	33-1-4662-5200
PARI MUTUEL URBAIN S-71	30	Paris	33-1-4953-3900
PARIBAS B-26	5	Paris	33-1-4298-1234
PINAULT S-66	23	Paris	33-1-4411-2020
POLIET S-68	25	Paris	33-1-4003-3200
PROMODÈS R-16	27	Mondeville	33-3170-6000
SAE S-96	28	Paris	33-1-4720-3200
SNCF T-1	16	Paris	33-1-4285-6000
SOCIÉTÉ GÉNÉRALE B-20	4	Paris	33-1-4098-2000
UNION DES ASSUR. DE PARIS F-7	10	Paris	33-1-4286-7171
UNION EUROPÉENNE DE CIC B-67	11	Paris	33-1-4266-7000

GERMANY 41 COMPANIES

ALLIANZ L-11	15	Stuttgart	49-711-6630
ALLIANZ HOLDING F-6	9	Munich	49-89-38000
ASKO DEUTSCHES KAUFHAUS R-20	32	Saarbrücken	49-681-8104-01
BAYERISCHE HYPOBANK B-47	7	Munich	49-89-92441

*Phone numbers include country and area codes

COUNTRY

CONTINUED

THE GLOBAL SERVICE 500 BY

COUNTRY

COMPANY (GLOBAL SERVICE 500 RANK)	RANKED BY ASSETS IN COUNTRY	HEADQUARTERS	Phone*
BAYERISCHE LANDESBANK B-48	8	Munich	49-89-2171-01
BAYERISCHE VEREINSBANK B-39	5	Munich	49-89-2132-1
BHW HOLDING I-17	19	Hamein	49-5151-180
COMMERZBANK B-38	4	Frankfurt	49-69-13620
DEUTSCHE BANK B-11	1	Frankfurt	49-69-71500
DEUTSCHE BUNDESBAHN T-3	16	Frankfurt	49-69-2650
DEUTSCHE BUNDESPOST U-4	11	Bonn	49-228-1810
DEUTSCHE GIROZENTRALE B-90	13	Frankfurt	49-69-2693-0
DG BANK B-44	6	Frankfurt	49-69-7447-01
DRESDNER BANK B-27	2	Frankfurt	49-69-2630
EDEKA ZENTRALE S-51	41	Hamburg	49-40-63770
FRANKFURTER SPARKASSE I-34	25	Frankfurt	49-69-26410
HAMBURG-MANNHEIMER L-40	21	Hamburg	49-40-63760
HAMBURGER SPARKASSE I-24	23	Hamburg	49-40-379-0
HANIEL (FRANZ) S-35	35	Duisburg	49-203-8060
HOLZMANN (PHILIPP)S-98	33	Frankfurt	49-69-2620
KARSTADT R-23	34	Essen	49-201-7271
KAUFHOF R-32	36	Cologne	49-221-2230
KLÖCKNER S-64	38	Duisburg	49-203-181
KREISSPARKASSE KÖLN I-45	30	Cologne	49-221-22701
LANDESBANK HESSEN B-96	14	Frankfurt	49-69-132-01
LANDESGIROKASSE I-28	24	Stuttgart	49-711-124-0
LUFTHANSA T-11	27	Cologne	49-221-8260
NASSAUISCHE SPARKASSE I-38	28	Wiesbaden	49-611-3640
NORDDEUTSCHE LANDESBANK B-69	10	Hanover	49-511-361-0
OTTO VERSAND R-34	—	Hamburg	49-40-64610
QUELLE GROUP R-37	39	Fürth	49-911-7420
REWE-HANDELSGRUPPE R-7	42	Cologne	49-221-1490
RWE GROUP S-14	18	Essen	49-201-1850
SPAR HANDELS R-44	40	Hamburg	49-40-830-310
SPARKASSE IN BREMEN I-49	31	Bremen	49-421-1790
STADTSPARKASSE KÖLN I-35	26	Cologne	49-221-226-1
STADTSPARKASSE MÜNCHEN I-41	29	Munich	49-89-2167-0
SÜDWESTDEUTSCHE LANDESBANK B-85	12	Stuttgart	49-621-428-0
TENGELMANN R-4	—	Mülheim	49-208-58060
THYSSEN HANDELSUNION S-40	37	Düsseldorf	49-211-9670
VEBA S-13	17	Düsseldorf	49-211-45791
VOLKSFÜRSORGE HOLDING L-42	22	Hamburg	49-40-28650
WESTDEUTSCHE LANDESBANK B-36	3	Düsseldorf	49-211-826-01
WÜSTENROT HOLDING I-19	20	Ludwigsburg	49-714-161

HONG KONG 5 COMPANIES

HONGKONG & SHANGHAI BANKING B-32	1	Hong Kong	852-822-1111
JARDINE MATHESON S-52	3	Hong Kong	852-843-8388
SWIRE PACIFIC T-35	2	Hong Kong	852-840-8888

IRAN 1 COMPANY

BANK MELLI IRAN B-46	1	Tehran	98-21-3231

ITALY 10 COMPANIES

ALITALIA T-32	15	Rome	39-6-65621
ASSICURAZIONI GENERALI F-22	10	Trieste	39-40-671241
BANCA COMMER. ITALIANA B-60	7	Milan	39-2-88501
BANCA NAZIONALE DEL LAVORO B-45	4	Rome	39-6-4702-1

COMPANY (GLOBAL SERVICE 500 RANK)	RANKED BY ASSETS IN COUNTRY	HEADQUARTERS	Phone*
BANCO DI NAPOLI B-40	3	Naples	39-81-792-1111
BANCO DI ROMA B-52	5	Rome	39-6-54451
CARIPLO B-56	6	Milan	39-2-88661
CREDIOP F-31	12	Rome	39-6-47711
CREDITO ITALIANO B-72	9	Milan	39-2-8862-1
IMI F-27	11	Rome	39-6-59591
IRITECNA S-53	13	Genoa	39-10-64081
IST. BANC. SAN PAOLO DI TORINO B-30	1	Turin	39-11-55561
MONTE DEI PASCHI DI SIENA B-37	2	Siena	39-577-294111
SNAM T-10	14	Milan	39-2-5201
STET U-2	8	Rome	39-6-85891

JAPAN 113 COMPANIES

ALL NIPPON AIRWAYS T-25	87	Tokyo	81-3-3592-3065
APLUS F-46	64	Osaka	81-6-245-7771
ASAHI MUTUAL LIFE INSURANCE L-8	31	Tokyo	81-3-3342-3111
BANK OF TOKYO B-17	12	Tokyo	81-3-3245-1111
BANK OF YOKOHAMA B-61	24	Yokohama	81-45-201-2211
CENTRAL JAPAN RAILWAY T-15	44	Nagoya	81-52-564-2338
CHIBA BANK B-88	32	Chiba	81-43-245-1111
CHIYODA MUTUAL LIFE INS. L-18	48	Tokyo	81-3-5704-5111
CHORI S-79	110	Osaka	81-6-228-5000
CHUBU ELECTRIC POWER U-11	52	Nagoya	81-52-951-8211
CHUGOKU ELECTRIC POWER U-31	76	Hiroshima	81-82-241-0211
DAIDO MUTUAL LIFE INS. L-35	61	Osaka	81-6-385-1130
DAIEI R-9	84	Kobe	81-78-302-5001
DAIHYAKU LIFE INSURANCE L-39	69	Tokyo	81-424-85-8111
DAI-ICHI KANGYO BANK B-1	1	Tokyo	81-3-3596-1111
DAI-ICHI MUTUAL LIFE L-2	18	Tokyo	81-3-3216-1211
DAIKYO S-86	81	Tokyo	81-3-3475-1111
DAIWA BANK B-41	20	Osaka	81-6-271-1221
DAIWA HOUSE INDUSTRY S-57	91	Osaka	81-6-538-5111
DAIWA SECURITIES F-26	47	Tokyo	81-3-3243-2111
DENTSU S-38	108	Tokyo	81-3-3544-5111
EAST JAPAN RAILWAY T-4	42	Tokyo	81-3-3212-3772
FUJI BANK B-3	3	Tokyo	81-3-3216-2211
FUJITA S-65	86	Tokyo	81-3-3402-1911
HANWA S-63	70	Tokyo	81-3-3544-2171
HAZAMA S-84	97	Tokyo	81-3-3405-1111
HITACHI SALES S-81	112	Tokyo	81-3-3502-2111
HOKKAIDO TAKUSHOKU BANK B-71	29	Sapporo	81-11-271-2111
HOKURIKU BANK B-97	36	Toyama	81-764-23-7111
INDUSTRIAL BANK OF JAPAN B-7	7	Tokyo	81-3-3214-1111
ITOH (C.) & CO. S-1	35	Osaka	81-6-241-2121
ITOMAN S-82	94	Osaka	81-6-244-8170
ITO-YOKADO R-5	82	Tokyo	81-3-3459-2111
JAPAN AIRLINES T-9	79	Tokyo	81-3-3284-2511
JAPAN LEASING F-42	58	Tokyo	81-3-3214-2341
JAPAN SECURITIES FINANCE F-47	68	Tokyo	81-3-3666-0571
JUSCO R-18	95	Tokyo	81-3-3296-7871
KAJIMA S-18	66	Tokyo	81-3-3404-3311
KANEMATSU S-12	80	Tokyo	81-3-5440-8111
KANSAI ELECTRIC POWER U-6	46	Osaka	81-6-441-8821
KAWASAKI KISEN T-42	109	Tokyo	81-3-3595-5000
KAWASHO S-22	100	Tokyo	81-3-3578-5111
KINKI NIPPON RAILWAY T-24	88	Osaka	81-6-775-3444

*Phone numbers include country and area codes.

COMPANY GLOBAL SERVICE 500 RANK	RANKED BY ASSETS IN COUNTRY	HEADQUARTERS	Phone*
KUMAGAI GUMI S-37	77	Fukui	81-776-21-2700
KYODO OIL S-30	106	Tokyo	81-3-3224-6400
KYOEI LIFE INSURANCE L-30	57	Tokyo	81-3-3270-8511
KYOWA SAITAMA BANK B-23	14	Tokyo	81-3-3287-2111
KYUSHU ELECTRIC POWER U-18	62	Fukuoka	81-92-761-3031
LONG-TERM CREDIT BANK B-16	11	Tokyo	81-3-3211-5111
MARUBENI S-3	33	Osaka	81-6-266-2111
MEIJI MUTUAL LIFE L-6	26	Tokyo	81-3-3283-8111
MITSUBISHI S-4	30	Tokyo	81-3-3210-2121
MITSUBISHI BANK B-6	6	Tokyo	81-3-3240-1111
MITSUBISHI TRUST & BANKING B-14	10	Tokyo	81-3-3212-1211
MITSUI & CO. S-5	34	Tokyo	81-3-3285-1111
MITSUI FUDOSAN S-34	59	Tokyo	81-3-3246-3065
MITSUI MUTUAL LIFE L-9	38	Tokyo	81-3-3211-6111
MITSUI O.S.K. LINES T-31	99	Tokyo	81-3-3587-7111
MITSUI TRUST & BANKING B-24	15	Tokyo	81-3-3270-9511
MITSUKOSHI R-36	107	Tokyo	81-3-3241-3311
NICHII R-31	92	Osaka	81-6-203-5071
NICHIMEN S-9	72	Tokyo	81-3-3277-5111
NIKKO SECURITIES F-41	56	Tokyo	81-3-3283-2211
NIPPON CREDIT BANK B-43	21	Tokyo	81-3-3263-1111
NIPPON DANTAI LIFE L-36	63	Tokyo	81-3-3407-6211
NIPPON EXPRESS T-5	93	Tokyo	81-3-3253-1111
NIPPON LIFE L-1	16	Osaka	81-6-209-4500
NIPPON SHINPAN F-17	41	Tokyo	81-3-3811-3111
NIPPON TEL. & TEL. S-11	28	Tokyo	81-3-3509-5111
NIPPON YUSEN KABUSHIKI T-23	89	Tokyo	81-3-3284-5151
NISSEI SANGYO S-87	113	Tokyo	81-3-3504-7111
NISSHO IWAI S-6	51	Osaka	81-6-209-2111
NITTETSU SHOJI S-31	90	Tokyo	81-3-3798-2111
NOMURA SECURITIES F-15	39	Tokyo	81-3-3211-1811
NORINCHUKIN BANK B-8	8	Tokyo	81-3-3279-0111
OBAYASHI S-28	74	Osaka	81-6-946-4400
ODAKYU ELECTRIC RAILWAY T-40	102	Tokyo	81-3-3349-2054
ORIENT F-16	40	Tokyo	81-3-3989-6111
ORIX F-35	53	Tokyo	81-3-3435-6641
SAKURA BANK B-4	4	Tokyo	81-3-3230-3111
SANWA BANK B-5	5	Osaka	81-6-206-8111
SEIBU RAILWAY T-41	96	Tokorozawa	81-429-26-2035
SEIYU R-24	83	Tokyo	81-3-3989-5069
SEKISUI HOUSE S-45	85	Osaka	81-6-446-3111
SHIMIZU S-16	65	Tokyo	81-3-5441-1111
SHIZUOKA BANK B-100	37	Shizuoka	81-54-261-3131
SHOKO CHUKIN BANK B-50	23	Tokyo	81-3-3272-6111
SUMITOMO S-2	45	Osaka	81-6-220-6000
SUMITOMO BANK B-2	2	Osaka	81-6-227-2111
SUMITOMO LIFE INSURANCE L-4	22	Osaka	81-6-231-8401
SUMITOMO TRUST & BANKING B-19	13	Osaka	81-6-220-2121
TAISEI S-20	67	Tokyo	81-3-3348-1111
TAIYO MUTUAL LIFE L-20	49	Tokyo	81-3-3272-6211
TAKASHIMAYA R-27	104	Osaka	81-6-631-1101
TAKENAKA S-25	78	Osaka	81-6-252-1201
TODA S-73	101	Tokyo	81-3-3562-6111
TOHOKU ELECTRIC POWER U-25	71	Sendai	81-22-225-2111
TOHO MUTUAL LIFE INSURANCE L-21	50	Tokyo	81-3-3499-1111
TOKAI BANK B-13	9	Nagoya	81-52-211-1111
TOKIO MARINE & FIRE INSURANCE F-36	54	Tokyo	81-3-3212-6211
TOKYO ELECTRIC POWER U-3	27	Tokyo	81-3-3501-8111
TOKYU CONSTRUCTION S-92	105	Tokyo	81-3-5466-5111
TOMEN S-8	73	Osaka	81-6-208-2211
TOSHOKU S-60	103	Tokyo	81-3-3245-2211
TOYOTA TSUSHO S-19	98	Nagoya	81-52-584-5015
TOYO TRUST & BANKING B-34	19	Tokyo	81-3-3287-2211
WEST JAPAN RAILWAY T-21	75	Osaka	81-6-375-8929
YAMAICHI SECURITIES F-38	55	Tokyo	81-3-3276-3181
YAMATO TRANSPORT T-44	111	Tokyo	81-3-3541-3411
YASUDA FIRE & MARINE INSURANCE F-44	60	Tokyo	81-3-3349-3111
YASUDA MUTUAL LIFE L-13	43	Tokyo	81-3-3342-7111
YASUDA TRUST & BANKING B-29	17	Tokyo	81-3-3278-8111
ZENSHINREN BANK B-63	25	Tokyo	81-3-3563-4111
MEXICO 1 COMPANY			
TELÉFONOS DE MÉXICO U-44	1	Mexico City	52-5-703-3990
NETHERLANDS 11 COMPANIES			
ABN AMRO HOLDING B-18	1	Amsterdam	31-20-6289898
AEGON F-28	5	The Hague	31-70-3443210
ING GROUP F-1	2	Amsterdam	31-20-6462201
KLM ROYAL DUTCH AIRLINES T-37	8	Amsterdam	31-20-6499123
KONINKLIJKE AHOLD R-21	9	Zaandam	31-75-599111
NEDERLANDSE SPAARBANKBOND I-21	6	Amsterdam	31-20-5567400
NEDLLOYD GROUP T-48	10	Rotterdam	31-10-4007111
NMB POSTBANK GROUP B-58	4	Amsterdam	31-20-5639111
PTT NEDERLAND U-32	7	The Hague	31-70-3323232
RABOBANK B-33	3	Utrecht	31-30-909111
SHV HOLDINGS S-46	—	Utrecht	31-30-338833
NETHERLANDS ANTILLES 1 COMPANY			
SCHLUMBERGER S-70	1	New York	1-212-350-9400
NORWAY 1 COMPANY			
SPAREBANKEN NOR I-33	1	Oslo	47-2-319050
PORTUGAL 1 COMPANY			
CAIXA GERAL DE DEPÓSITOS I-18	1	Lisbon	351-1-346-1981
SOUTH AFRICA 4 COMPANIES			
ESKOM U-35	3	Sandton	27-11-800-8111
OLD MUTUAL L-38	1	Cape Town	27-21-509-9111
SANLAM L-45	2	Cape Town	27-21-947-9111
TRANSNET T-30	4	Johannesburg	27-11-488-7111
SOUTH KOREA 3 COMPANIES			
HYUNDAI S-24	3	Seoul	82-2-746-1121
HYUNDAI ENGINEERING & CONSTR. S-78	1	Seoul	82-2-746-2013
LUCKY-GOLDSTAR INTERNATIONAL S-94	2	Seoul	82-2-787-5114

*Phone numbers include country and area codes.

CONTINUED

COUNTRY

SPAIN 16 COMPANIES

COMPANY / GLOBAL SERVICE 500 RANK	RANKED BY ASSETS IN COUNTRY	HEADQUARTERS	Phone*
BANCO BILBAO VIZCAYA B-66	2	Bilbao	34-4-487-6000
BANCO CENTRAL-HISPANO B-64	1	Madrid	34-1-532-8810
BANCO DE SANTANDER B-99	5	Santander	34-42-206100
BANCO ESPAÑOL DE CRÉDITO B-81	3	Madrid	34-1-338-1500
BILBAO BIZKAIA KUTXA I-36	11	Bilbao	34-4-487-7600
CAIXA (LA) I-3	4	Barcelona	34-3-404-6000
CAIXA GALICIA I-44	14	La Coruña	34-81-187000
CAJA DE AHORROS DE CATALUÑA I-37	12	Barcelona	34-3-484-5000
CAJA POSTAL I-29	9	Madrid	34-1-537-5000
CORTE INGLÉS R-39	16	Madrid	34-1-401-8500
ENDESA U-37	10	Madrid	34-1-563-3849
GRUPO CAJA DE MADRID I-12	7	Madrid	34-1-379-2000
IBERCAJA I-40	13	Zaragoza	34-76-223-344
IBERDROLA U-13	8	Madrid	34-1-577-6500
IBERIA AIRLINES T-45	15	Madrid	34-1-587-7333
TELEFÓNICA DE ESPAÑA U-8	6	Madrid	34-1-559-0300

SWEDEN 14 COMPANIES

BILSPEDITION T-29	13	Göteborg	46-31-83-40-40
ICA HANDLARNAS S-50	12	Stockholm	46-8-728-40-40
JOHNSON (AXEL) S-88	14	Stockholm	46-8-701-61-00
KOOPERATIVA FÖRBUNDET S-33	10	Stockholm	46-8-743-10-00
NORDBANKEN B-98	4	Stockholm	46-8-614-70-00
SAS T-28	9	Stockholm	46-8-797-00-00
SJ GROUP T-46	11	Stockholm	46-8-762-20-00
SKANDIN. ENSKILDA BANKEN B-74	1	Stockholm	46-8-763-50-00
SKANSKA S-83	8	Danderyd	46-8-753-80-00
SVENSKA HANDELSBANKEN B-80	2	Stockholm	46-8-701-10-00
SWEDBANK B-87	3	Stockholm	46-8-790-10-00
TELEVERKET U-50	7	Stockholm	46-8-713-10-00
TRYGG-HANSA SPP F-23	5	Stockholm	46-8-785-10-00
VATTENFALL U-39	6	Vällingby	46-8-739-50-00

SWITZERLAND 14 COMPANIES

COOP SCHWEIZ R-43	—	Basel	41-61-336-6666
CRÉDIT SUISSE B-53	3	Zürich	41-1-333-11-11
DANZAS T-20	—	Basel	41-61-315-91-91
MIGROS R-25	11	Zürich	41-1-277-21-11
PTT SUISSES U-28	8	Bern	41-31-62-11-11
RAIFFEISENBANKEN I-16	7	St. Gallen	41-71-21-91-11
SCHWEIZERISCHE BUNDESBAHNEN T-38	10	Bern	41-31-60-11-11
SWISS BANK CORP. B-35	2	Basel	41-61-288-20-20
SWISS REINSURANCE F-39	6	Zürich	41-1-285-21-21
SWISSAIR T-36	12	Zürich	41-1-812-12-12
UNION BANK OF SWITZERLAND B-28	1	Zürich	41-1-234-11-11
WINTERTHUR GROUP F-33	5	Winterthur	41-52-26-11-11
WINTERTHUR LIFE L-47	9	Winterthur	41-52-26-11-11
ZURICH INSURANCE F-21	4	Zürich	41-1-205-21-21

TAIWAN 1 COMPANY

TAIPOWER U-21	1	Taipei	886-2-365-1234

*Phone numbers include country and area codes

U.S. 139 COMPANIES

COMPANY / GLOBAL SERVICE 500 RANK	RANKED BY ASSETS IN COUNTRY	HEADQUARTERS	Phone*
AETNA LIFE L-12	24	Hartford	1-203-273-0123
AETNA LIFE & CASUALTY F-9	13	Hartford	1-203-273-0123
AHMANSON (H.F.) I-5	26	Los Angeles	1-818-960-6311
ALBERTSON'S R-35	131	Boise, Idaho	1-208-385-6200
ALCO STANDARD S-93	134	Wayne, Pa.	1-215-296-8000
ALLSTATE LIFE L-48	61	Northbrook, Ill.	1-708-402-5000
AMERICAN ELECTRIC POWER U-38	71	Columbus, Ohio	1-614-223-1000
AMERICAN EXPRESS F-4	4	New York	1-212-640-2000
AMERICAN FINANCIAL S-90	81	Cincinnati	1-513-579-2121
AMERICAN GENERAL F-32	36	Houston	1-713-522-1111
AMERICAN INTL. GROUP F-11	16	New York	1-212-770-7000
AMERICAN STORES R-8	105	Salt Lake City	1-801-539-0112
AMERICAN TEL. & TEL. S-7	22	New York	1-212-605-5500
AMERITECH U-22	53	Chicago	1-312-750-5000
AMR T-6	66	Fort Worth	1-817-963-1234
ANCHOR BANCORP I-47	101	Hewlett, N.Y.	1-516-596-3900
ARA GROUP S-97	135	Philadelphia	1-215-238-3000
BANKAMERICA CORP. B-51	6	San Francisco	1-415-622-3456
BANKERS TRUST N.Y. CORP. B-91	18	New York	1-212-250-2500
BEAR STEARNS F-29	33	New York	1-212-272-2000
BELL ATLANTIC U-15	44	Philadelphia	1-215-963-6000
BELLSOUTH U-14	41	Atlanta	1-404-249-2000
BERGEN BRUNSWIG S-95	138	Orange, Calif.	1-714-385-4000
BURLINGTON NORTHERN T-24	110	Fort Worth	1-817-878-2000
CALFED I-26	60	Los Angeles	1-213-932-4321
CAPITAL CITIES/ABC S-85	107	New York	1-212-456-7777
CARGILL S-10	72	Minnetonka, Minn.	1-612-475-7575
CENTERIOR ENERGY U-45	82	Independence, Oh.	1-216-447-3100
CHASE MANHATTAN CORP. B-62	11	New York	1-212-552-2222
CHEMICAL BANKING CORP. B-42	5	New York	1-212-310-6161
CIGNA F-12	17	Philadelphia	1-215-761-1000
CITICORP B-25	1	New York	1-212-559-1000
COAST SAVINGS FINANCIAL I-46	100	Los Angeles	1-213-362-2000
COMMONWEALTH EDISON U-29	63	Chicago	1-312-294-4321
CONNECTICUT GENERAL LIFE L-19	31	Bloomfield	1-203-726-6000
CONSOL. EDISON OF N.Y. U-49	87	New York	1-212-460-4600
CONSOLIDATED FREIGHTWAYS T-39	130	Palo Alto, Calif.	1-415-494-2900
CONTINENTAL AIRLNS. HLDGS. T-27	123	Houston	1-713-834-5000
CSX T-16	77	Richmond	1-804-782-1400
DAYTON HUDSON R-12	94	Minneapolis	1-612-370-6948
DELTA AIR LINES T-12	102	Atlanta	1-404-715-2600
DIME SAVINGS BANK OF N.Y. I-39	91	New York	1-212-326-6000
DISNEY (WALT) S-69	95	Burbank, Calif.	1-818-560-1000
DOMINION RESOURCES U-48	86	Richmond	1-804-775-5700
DUN & BRADSTREET S-100	118	New York	1-212-593-6800
ELECTRONIC DATA SYSTEMS S-54	112	Dallas	1-214-661-6000
ENRON S-21	90	Houston	1-713-853-6161
ENTERGY U-36	70	New Orleans	1-504-529-5262
EQUITABLE LIFE ASSURANCE L-14	25	New York	1-212-554-1234
FEDERAL EXPRESS T-17	113	Memphis	1-901-369-3600
FED. HOME LOAN MORTGAGE F-24	27	Reston, Va.	1-703-903-2000
FED. NATL. MORTGAGE ASSN. F-3	3	Washington	1-202-752-7000
FEDERATED DEPT. STORES R-46	104	Cincinnati	1-212-840-1440
FIRSTFED MICHIGAN CORP. I-43	96	Detroit	1-313-965-1400
FLEMING S-23	124	Oklahoma City	1-405-840-7200

CONTINUED

THE GLOBAL SERVICE 500 BY

COUNTRY

COMPANY GLOBAL SERVICE 500 RANK	RANKED BY ASSETS IN COUNTRY	HEADQUARTERS	Phone*
FLUOR S-58	129	Irvine, Calif.	1-714-975-2000
FPL GROUP U-47	85	N. Palm Beach, Fl.	1-407-694-4000
GLENFED I-23	56	Glendale, Calif.	1-818-500-2000
GOLDEN WEST FINANCIAL CORP. I-20	48	Oakland	1-510-446-3420
GREAT WESTERN FINANCIAL CORP. I-6	32	Beverly Hills	1-213-852-3411
GTE U-7	30	Stamford, Conn.	1-203-965-2000
HALLIBURTON S-55	116	Dallas	1-214-978-2600
HOMEFED CORP. I-31	73	San Diego	1-619-699-8000
HOSPITAL CORP. OF AMERICA S-91	111	Nashville	1-615-327-9551
HOUSEHOLD INTERNATIONAL F-40	42	Prospect Hts., Ill.	1-708-564-5000
HOUSTON INDUSTRIES U-46	83	Houston	1-713-629-3000
HUMANA S-72	120	Louisville, Ky.	1-502-580-1000
IDS LIFE L-43	58	Minneapolis	1-612-372-3131
ITT F-18	21	New York	1-212-258-1000
JOHN HANCOCK MUTUAL LIFE L-22	35	Boston	1-617-572-6000
KMART R-3	67	Troy, Mich.	1-313-643-1000
KROGER R-6	121	Cincinnati	1-513-762-4000
LINCOLN NATIONAL LIFE L-37	49	Fort Wayne	1-219-455-2000
LOEWS F-30	34	New York	1-212-545-2000
MACY (R.H.) R-47	117	New York	1-212-560-4400
MARRIOTT S-44	109	Bethesda, Md.	1-301-380-9000
MASS. MUTUAL LIFE L-31	43	Springfield, Mass.	1-413-788-8411
MAY DEPARTMENT STORES R-22	99	St. Louis	1-314-342-6300
MCDONALD'S R-50	84	Oak Brook, Ill.	1-708-575-3000
MCI COMMUNICATIONS S-47	98	Washington, D.C.	1-202-872-1600
MCKESSON S-36	125	San Francisco	1-415-983-8300
MELVILLE R-30	122	Rye, N.Y.	1-914-925-4000
MERRILL LYNCH F-10	14	New York	1-212-449-1000
METROPOLITAN LIFE L-5	7	New York	1-212-578-2211
MORGAN (J.P.) & CO. B-59	10	New York	1-212-483-2323
MORGAN STANLEY GROUP F-13	19	New York	1-212-703-4000
MUTUAL OF NEW YORK L-49	62	New York	1-212-708-2000
NATIONSBANK CORP. B-55	8	Charlotte, N.C.	1-704-386-5000
NEW ENGLAND MUTUAL LIFE L-50	64	Boston	1-617-578-2000
NEW YORK LIFE L-17	29	New York	1-212-576-7000
NORFOLK SOUTHERN T-33	89	Norfolk, Va.	1-804-629-2600
NORTHWESTERN MUTUAL LIFE L-24	37	Milwaukee	1-414-271-1444
NWA T-18	103	Eagan, Minn.	1-612-726-2111
NYNEX U-17	46	New York	1-212-370-7400
PACIFIC ENTERPRISES S-62	106	Los Angeles	1-213-895-5000
PACIFIC GAS & ELECTRIC U-20	51	San Francisco	1-415-972-7000
PACIFICORP U-40	75	Portland, Ore.	1-503-731-2000
PACIFIC TELESIS GROUP U-23	54	San Francisco	1-415-394-3000
PAINE WEBBER GROUP F-48	52	New York	1-212-713-2000
PENNEY (J.C.) R-11	80	Dallas	1-214-591-1000
PHILADELPHIA ELECTRIC U-42	79	Philadelphia	1-215-841-4000
PRICE R-48	136	San Diego	1-619-581-4600
PRIMERICA F-49	55	New York	1-301-332-3000
PRINCIPAL MUTUAL LIFE L-28	40	Des Moines	1-515-247-5111
PRUDENTIAL OF AMERICA L-3	2	Newark, N.J.	1-201-802-6000
PUBLIC SERVICE ENT. GROUP U-34	69	Newark, N.J.	1-201-430-7000
RYDER SYSTEM S-89	115	Miami, Fla.	1-305-593-3726
SAFEWAY R-14	114	Oakland	1-510-891-3000
SALOMON F-8	12	New York	1-212-783-7000
SCECORP U-30	65	Rosemead, Calif.	1-818-302-1212
SEARS ROEBUCK R-1	9	Chicago	1-312-875-2500
SECURITY PACIFIC CORP. B-77	15	Los Angeles	1-213-345-6211
SOUTHERN U-26	57	Atlanta	1-404-393-0650
SOUTHLAND R-40	127	Dallas	1-214-828-7011
SOUTHWESTERN BELL U-19	50	St. Louis	1-314-235-9800
SPRINT S-43	88	Kansas City	1-913-624-3000
STANDARD FEDERAL BANK I-42	93	Troy, Mich.	1-313-643-9600
STUDENT LOAN MKTG. ASSN. F-25	28	Washington, D.C.	1-202-333-8000
SUPER VALU STORES S-32	128	Eden Prairie, Mn.	1-612-828-4000
SYSCO S-48	132	Houston	1-713-584-1390
TEACHERS INS. & ANNUITY L-10	20	New York	1-212-490-9000
TELE-COMMUNICATIONS U-41	76	Denver	1-303-721-5500
TEXAS UTILITIES U-27	59	Dallas	1-214-812-4600
TIME WARNER S-26	47	New York	1-212-484-8000
TRANSAMERICA F-37	39	San Francisco	1-415-983-4000
TRANS WORLD AIRLINES T-47	126	Mount Kisco, N.Y.	1-914-242-3000
TRAVELERS L-25	38	Hartford	1-203-277-0111
TRAVELERS CORP. F-19	23	Hartford	1-203-277-0111
UAL T-8	92	Elk Grove, Ill.	1-708-952-4000
UNION PACIFIC T-19	74	Bethlehem, Pa.	1-215-861-3200
UNITED PARCEL SERVICE T-2	97	Atlanta	1-404-913-6000
USAIR GROUP T-26	108	Arlington, Va.	1-703-418-7000
US WEST U-16	45	Englewood, N.J.	1-303-793-6500
WALGREEN R-49	133	Deerfield, Ill.	1-708-940-2500
WAL-MART STORES R-2	68	Bentonville, Ark.	1-501-273-4000
WASTE MANAGEMENT S-49	78	Oak Brook, Ill.	1-708-572-8800
WETTERAU S-75	139	Hazelwood, Mo.	1-314-524-5000
WINN-DIXIE STORES R-26	137	Jacksonville, Fla.	1-904-783-5000
WOOLWORTH R-29	119	New York	1-212-553-2000

*Phone numbers include country and area codes

CONTINUED

INDEX

COMPANY	GLOBAL 500 RANK
A	
ABBEY NATIONAL	I-1
ABN AMRO HOLDING	B-18
AEGON	F-28
AETNA LIFE	L-12
AETNA LIFE & CASUALTY	F-9
AHMANSON (H.F.)	I-5
AIR FRANCE	T-7
ALBERTSON'S	R-35
ALCO STANDARD	S-93
ALITALIA	T-32
ALLIANCE & LEICESTER	I-7
ALLIANZ	L-11
ALLIANZ HOLDING	F-6
ALL NIPPON AIRWAYS	T-25
ALLSTATE LIFE	L-48
AMERICAN ELECTRIC POWER	U-38
AMERICAN EXPRESS	F-4
AMERICAN FINANCIAL	S-90
AMERICAN GENERAL	F-32
AMERICAN INTL. GROUP	F-11
AMERICAN STORES	R-8
AMERICAN TEL. & TEL.	S-7
AMERITECH	U-22
AMR	T-6
ANCHOR BANCORP	I-47
APLUS	F-46
ARA GROUP	S-97
ARGYLL GROUP	R-38
ASAHI MUTUAL LIFE INSURANCE	L-8
ASKO DEUTSCHES KAUFHAUS	R-20
ASSICURAZIONI GENERALI	F-22
ASSUR. GÉNÉRALES DE FRANCE	F-14
AUSTRALIA & NEW ZEAL BANK.	B-76
AUSTRALIAN MUTUAL PROVIDENT	L-15
AXA	F-34
B	
BANCA COMMER. ITALIANA	B-60
BANCA NAZIONALE DEL LAVORO	B-45
BANCO BILBAO VIZCAYA	B-66
BANCO CENTRAL-HISPANO	B-64
BANCO DE SANTANDER	B-99
BANCO DI NAPOLI	B-40
BANCO DI ROMA	B-52
BANCO DO BRASIL	B-84
BANCO ESPAÑOL DE CRÉDITO	B-81
BANKAMERICA CORP.	B-51
BANKERS TRUST N.Y. CORP.	B-91
BANK MELLI IRAN	B-46
BANK OF CHINA	B-22
BANK OF MONTREAL	B-68
BANK OF NOVA SCOTIA	B-75
BANK OF TOKYO	B-17
BANK OF YOKOHAMA	B-61
BANQUE BRUXELLES LAMBERT	B-89
BANQUE INDOSUEZ	B-83
BANQUE NATIONALE DE PARIS	B-12
BARCLAYS BANK	B-15
BASS	S-59
BAT INDUSTRIES	F-20
BAYERISCHE HYPOBANK	B-47
BAYERISCHE LANDESBANK	B-48
BAYERISCHE VEREINSBANK	B-39
BCE	S-17
BEAR STEARNS	F-29
BELL ATLANTIC	U-15
BELL CANADA	U-33
BELLSOUTH	U-14
BERGEN BRUNSWIG	S-95
BHW HOLDING	I-17
BILBAO BIZKAIA KUTXA	I-36
BILSPEDITION	T-29
BOOKER	S-74
BOUYGUES	S-29
BRADFORD & BINGLEY	I-22
BRISTOL & WEST	I-32
BRITANNIA BUILDING SOC.	I-27
BRITISH AIRWAYS	T-13
BRITISH GAS	U-5
BRITISH RAILWAYS BOARD	T-22
BT	U-10
BURLINGTON NORTHERN	T-34
C	
CAIXA (LA)	I-3
CAIXA GALICIA	I-44
CAIXA GERAL DE DEPOSITOS	I-18
CAJA DE AHORROS DE CATALUÑA	I-37
CAJA POSTAL	I-29
CALFED	I-26
CANADIAN IMPERIAL BANK	B-57
CANADIAN NATIONAL RAILWAY	T-50
CANADIAN PACIFIC	S-42
CAPITAL CITIES/ABC	S-85
CARGILL	S-10
CARIPLO	B-56
CARREFOUR	R-10
CENTERIOR ENERGY	U-45
CENTRAL JAPAN RAILWAY	T-15
CHASE MANHATTAN CORP.	B-62
CHELTENHAM & GLOUCESTER	I-15
CHEMICAL BANKING CORP.	B-42
CHIBA BANK	B-88
CHIYODA MUTUAL LIFE INS.	L-18
CHORI	S-79
CHUBU ELECTRIC POWER	U-11
CHUGOKU ELECTRIC POWER	U-31
CIE DE SUEZ	F-2
CIE GENERALE DES EAUX	S-15
CIGNA	F-12
CITICORP	B-25
CNP	L-33
COAST SAVINGS FINANCIAL	I-46
COLES MYER	R-19
COMMERCIAL UNION	L-27
COMMERZBANK	B-38
COMMONWEALTH BANKING	B-86
COMMONWEALTH EDISON	U-29
CONFÉDÉRATION DESJARDINS	I-8
CONFEDERATION LIFE	L-41
CONNECTICUT GENERAL LIFE	L-19
CONSOL. EDISON OF N.Y.	U-49
CONSOLIDATED FREIGHTWAYS	T-39
CONTINENTAL AIRLNS. HLDGS.	T-27
COOP SCHWEIZ	R-43
CORTE INGLÉS	R-39
CREDIOP	F-31
CRÉDIT AGRICOLE	B-9
CRÉDIT COMMUNAL DE BELGIQUE	B-93
CRÉDIT LYONNAIS	B-10
CRÉDIT MUTUEL	B-82
CRÉDIT NATIONAL	F-43
CREDITO ITALIANO	B-72
CRÉDIT SUISSE	B-53
CSX	T-16
CT FINANCIAL SERVICES	I-10
D	
DAIDO MUTUAL LIFE INS.	L-35
DAIEI	R-9
DAIHYAKU LIFE INSURANCE	L-39
DAI-ICHI KANGYO BANK	B-1
DAI-ICHI MUTUAL LIFE	L-2
DAIKYO	S-86
DAIWA BANK	B-41
DAIWA HOUSE INDUSTRY	S-57
DAIWA SECURITIES	F-26
DANZAS	T-20
DAYTON HUDSON	R-12
DELHAIZE "LE LION"	R-33
DELTA AIR LINES	T-12
DEN DANSKE BANK	B-94
DENTSU	S-38
DEUTSCHE BANK	B-11
DEUTSCHE BUNDESBAHN	T-3
DEUTSCHE BUNDESPOST	U-4
DEUTSCHE GIROZENTRALE	B-90
DG BAN.	B-43
DIME SAVINGS BANK OF N.Y.	I-39
DISNEY (WALT)	S-69
DOMINION RESOURCES	U-48
DRESDNER BANK	B-27
DUN & BRADSTREET	S-100
E	
EAST JAPAN RAILWAY	T-4
EDEKA ZENTRALE	S-51
ELECTRABEL	U-43
ÉLECTRICITÉ DE FRANCE	U-1
ELECTRONIC DATA SYSTEMS	S-54
ENDESA	U-37
ENRON	S-21
ENTERGY	U-36
EQUITABLE LIFE ASSURANCE	L-14
ESKOM	U-35
F	
FEDERAL EXPRESS	T-17
FED. HOME LOAN MORTGAGE	F-24
FED. NATL. MORTGAGE ASSN.	F-3
FEDERATED DEPT. STORES	R-46
FIRSTFED MICHIGAN CORP.	I-43
FLEMING	S-23
FLUOR	S-58
FPL GROUP	U-47
FRANKFURTER SPARKASSE	I-34
FUJI BANK	B-3
FUJITA	S-65
G	
GAN	F-5
GENERALE BANK	B-73
GIRO. & BANK (ÖSTERR.)	I-13
GLENFED	I-23
GOLDEN WEST FINAN. CORP.	I-20
GREAT WESTERN FINAN. CORP.	I-6
GROUPE CAISSES D'ÉPARGNE	B-31
GROUPE CASINO	R-41
GROUPE DES BANQUES POP.	B-78
GRUPO CAJA DE MADRID	I-12
GTE	U-7
GTM-ENTREPOSE	S-99
GUARDIAN ROYAL EXCHANGE	F-50
H	
HALIFAX BUILDING SOCIETY	I-2
HALLIBURTON	S-55
HAMBURGER SPARKASSE	I-24
HAMBURG-MANNHEIMER	L-40
HANIEL (FRANZ)	S-35
HANWA	S-63
HAZAMA	S-84
HITACHI SALES	S-81
HOKKAIDO TAKUSHOKU BANK	B-71
HOKURIKU BANK	B-97
HOLZMANN (PHILIPP)	S-98
HOMEFED CORP.	I-31
HONGKONG & SHANGHAI BANK.	B-32
HOSPITAL CORP. OF AMERICA	S-91
HOUSEHOLD INTERNATIONAL	F-40
HOUSTON INDUSTRIES	U-46
HUMANA	S-72
HYDRO QUÉBEC	U-12
HYUNDAI	S-24
HYUNDAI ENG. & CONSTRUCTION	S-78
I	
IBERCAJA	I-40
IBERDROLA	U-13
IBERIA AIRLINES	T-45
ICA HANDLARNAS	S-50
IDS LIFE	L-43
IMASCO	R-45
IMI	F-27
INCHCAPE	S-67
INDUSTRIAL BANK OF JAPAN	B-7
ING GROUP	F-1
IRITECNA	S-53
IST. BANC. SAN PAOLO TORINO	B-30
ITOH (C.) & CO.	S-1
ITOMAN & CO.	S-82
ITO-YOKADO	R-5
ITT	F-18
J	
JAPAN AIRLINES	T-9
JAPAN LEASING	F-42
JAPAN SECURITIES FINANCE	F-47
JARDINE MATHESON	S-52
JOHN HANCOCK MUTUAL LIFE	L-22
JOHNSON (AXEL)	S-88
JUSCO	R-18
K	
KAJIMA	S-18
KANEMATSU	S-12
KANSAI ELECTRIC POWER	U-6
KARSTADT	R-23
KAUFHOF	R-32
KAWASAKI KISEN	T-42
KAJIMA	S-22
KESKO	S-56
KINKI NIPPON RAILWAY	T-24
KLM ROYAL DUTCH AIRLINES	T-37
KLÖCKNER	S-64
KMART	R-3
KONINKLIJKE AHOLD	R-21
KOOPERATIVA FÖRBUNDET	S-33
KREDIETBANK	B-92
KREISSPARKASSE KÖLN	I-45
KROGER	R-6
KUMAGAI GUMI	S-37
KYODO OIL	S-30

B—COMMERCIAL BANKING COMPANIES page 213 I—SAVINGS INSTITUTIONS page 218 R—RETAILING COMPANIES page 220 T—TRANSPORTATION COMPANIES page 221
F—DIVERSIFIED FINANCIAL COMPANIES page 215 L—LIFE INSURANCE COMPANIES page 219 S—DIVERSIFIED SERVICE COMPANIES page 211 U—UTILITIES page 224

INDEX

COMPANY	GLOBAL 500 RANK
KYOEI LIFE INSURANCE	L-30
KYOWA SAITAMA BANK	B-23
KYUSHU ELECTRIC POWER	U-18
L	
LADBROKE GROUP	S-61
LANDESBANK HESSEN	B-96
LANDESGIROKASSE	I-28
LECLERC (E.)	R-13
LEEDS PERMANENT	I-14
LEGAL & GENERAL	L-23
LINCOLN NATIONAL LIFE	L-37
LLOYDS BANK	B-65
LOBLAW	R-42
LOEWS	F-30
LONG-TERM CREDIT BANK	B-16
LONRHO	S-41
LUCKY-GOLDSTAR INTL.	S-94
LUFTHANSA	T-11
M	
MACY (R.H.)	R-47
MANUFACTURERS LIFE INS.	L-32
MARKS & SPENCER	R-28
MARRIOTT	S-44
MARUBENI	S-3
MASS. MUTUAL LIFE	L-31
MAY DEPARTMENT STORES	R-22
MCDONALD'S	R-50
MCI COMMUNICATIONS	S-47
MCKESSON	S-36
MEIJI MUTUAL LIFE	L-6
MELVILLE	R-30
MERRILL LYNCH	F-10
METROPOLITAN LIFE	L-5
MIDLAND BANK	B-54
MIGROS	R-25
MITSUBISHI	S-4
MITSUBISHI BANK	B-6
MITSUBISHI TRUST & BANKING	B-14
MITSUI & CO.	S-5
MITSUI FUDOSAN	S-34
MITSUI MUTUAL LIFE	L-9
MITSUI O.S.K. LINES	T-31
MITSUI TRUST & BANKING	B-24
MITSUKOSHI	R-36
MONTE DEI PASCHI DI SIENA	B-37
MORGAN (J.P.) & CO.	B-59
MORGAN STANLEY GROUP	F-13
MUTUAL OF NEW YORK	L-49
N	
NASSAUISCHE SPARKASSE	I-38
NATIONAL AUSTRALIA BANK	B-79
NATL. MUT. LIFE OF AUSTRAL.	L-44
NATIONAL & PROVINCIAL	I-25
NATIONAL TRUSTCO	I-30
NATIONAL WESTMINSTER	B-21
NATIONSBANK CORP.	B-55
NATIONWIDE ANGLIA	I-4
NEDERLANDSE SPAARBANK.	I-21
NEDLLOYD GROUP	T-48
NEW ENGLAND MUTUAL LIFE	L-50
NEW YORK LIFE	L-17
NICHII	R-31
NICHIMEN	S-9
NIKKO SECURITIES	F-41
NIPPON CREDIT BANK	B-43
NIPPON DANTAI LIFE	L-36
NIPPON EXPRESS	T-5
NIPPON LIFE	L-1
NIPPON SHINPAN	F-17
NIPPON TEL. & TEL.	S-11
NIPPON YUSEN KABUSHIKI	T-23
NISSEI SANGYO	S-87
NISSHO IWAI	S-6
NITTETSU SHOJI	S-31
NMB POSTBANK GROUP	B-58
NOMURA SECURITIES	F-15
NORDBANKEN	B-98
NORDDEUTSCHE LANDESBANK	B-69
NORFOLK SOUTHERN	T-33
NORINCHUKIN BANK	B-8
NORTHERN ROCK BLDG. SOC.	I-48
NORTHWESTERN MUTUAL LIFE	L-24
NORWICH UNION	L-26
NWA	T-18
NYNEX	U-17
O	
OBAYASHI	S-28
ODAKYU ELECTRIC RAILWAY	T-40
OLD MUTUAL	L-38
ONTARIO HYDRO	U-9
ORIENT	F-16
ORIX	F-35
ÖSTERR. BUNDESBAHNEN	T-49
ÖSTERREICHISCHE POST	U-24
OTTO VERSAND	R-34
P	
PACIFIC ENTERPRISES	S-62
PACIFIC GAS & ELECTRIC	U-20
PACIFICORP	U-40
PACIFIC TELESIS GROUP	U-23
PAINE WEBBER GROUP	F-48
PARIBAS	B-26
PARI MUTUEL URBAIN	S-71
PENIN. & ORIENT. STEAM NAV.	T-14
PENNEY (J.C.)	R-11
PHILADELPHIA ELECTRIC	U-42
PINAULT	S-66
POLIET	S-68
PRICE	R-48
PRIMERICA	F-49
PRINCIPAL MUTUAL LIFE	L-28
PROMODÈS	R-16
PROVIGO	S-77
PRUDENTIAL	L-7
PRUDENTIAL OF AMERICA	L-3
PTT NEDERLAND	U-32
PTT SUISSES	U-28
PUBLIC SERVICE ENT. GROUP	U-34
Q	
QUELLE GROUP	R-37
R	
RABOBANK	B-33
RAIFFEISENBANKEN	I-16
REWE-HANDELSGRUPPE	R-7
ROYAL BANK OF CANADA	B-49
RWE GROUP	S-14
RYDER SYSTEM	S-89
S	
SAE	S-96
SAFEWAY	R-14
SAINSBURY (J.)	R-15
SAKURA BANK	B-4
SALOMON	F-8
SANLAM	L-45
SANWA BANK	B-5
SAS	T-28
SCECORP	U-30
SCHLUMBERGER	S-70
SCHWEIZERISCHE BUNDESBAHN	T-38
SCOTTISH WIDOWS' F&L	L-34
SEARS ROEBUCK	R-1
SECURITY PACIFIC CORP.	B-77
SEIBU RAILWAY	T-41
SEIYU	R-24
SEKISUI HOUSE	S-45
SHIMIZU	S-16
SHIZUOKA BANK	B-100
SHOKO CHUKIN BANK	B-50
SHV HOLDINGS	S-46
SINOCHEM	S-27
SJ GROUP	T-46
SKANDIN. ENSKILDA BANKEN	B-74
SKANSKA	S-83
SNAM	I-10
SNCF	T-1
SOCIÉTÉ GÉNÉRALE	B-20
SOUTHERN	U-26
SOUTHLAND	R-40
SOUTHWESTERN BELL	U-19
SPAREBANKEN NOR	I-33
SPAR HANDELS	R-44
SPARKASSE IN BREMEN	I-49
SPRINT	43
STADTSPARKASSE KÖLN	35
STADTSPARKASSE MÜNCHEN	I-41
STANDARD FEDERAL BANK	I-42
STANDARD LIFE	L-16
STET	U-2
STUDENT LOAN MKTG. ASSN.	F-25
SÜDWESTDEUTSCHE LANDESB.	B-85
SUMITOMO	S-2
SUMITOMO BANK	B-2
SUMITOMO LIFE INSURANCE	L-4
SUMITOMO TRUST & BANK.	B-19
SUN LIFE	L-46
SUN LIFE ASSUR. OF CANADA	I-29
SUPER VALU STORES	S-32
SVENSKA HANDELSBANKEN	B-80
SWEDBANK	B-87
SWIRE PACIFIC	T-35
SWISSAIR	T-36
SWISS BANK CORP.	B-35
SWISS REINSURANCE	F-39
SYSCO	S-48
T	
TAIPOWER	U-21
TAISEI	S-20
TAIYO MUTUAL LIFE	L-20
TAKASHIMAYA	R-27
TAKENAKA	S-25
TARMAC	S-80
TEACHERS INS. & ANNUITY	L-10
TELE-COMMUNICATIONS	U-41
TELEFÓNICA DE ESPAÑA	U-8
TELEFONOS DE MÉXICO	U-44
TELEVERKET	U-50
TENGELMANN	R-4
TESCO	R-17
TEXAS UTILITIES	U-27
THYSSEN HANDELSUNION	S-40
TIME WARNER	S-26
TNT	T-43
TODA	S-73
TOHOKU ELECTRIC POWER	U-25
TOHO MUTUAL LIFE INSURANCE	L-21
TOKAI BANK	B-13
TOKIO MARINE & FIRE INS.	F-36
TOKYO ELECTRIC POWER	U-3
TOKYU CONSTRUCTION	S-92
TOMEN	S-8
TORONTO-DOMINION BANK	B-95
TOSHOKU	S-60
TOYOTA TSUSHO	S-19
TOYO TRUST & BANKING	B-34
TRAFALGAR HOUSE	S-76
TRANSAMERICA	F-37
TRANSNET	T-30
TRANS WORLD AIRLINES	T-47
TRAVELERS	L-25
TRAVELERS CORP.	F-19
TRILON FINANCIAL	I-11
TRYGG-HANSA SPP	F-23
U	
UAL	T-8
UNION BANK OF SWITZERLAND	B-28
UNION DES ASSUR. DE PARIS	F-7
UNION EUROPÉENNE DE CIC	B-67
UNION PACIFIC	T-19
UNITED PARCEL SERVICE	T-2
USAIR GROUP	T-26
US WEST	U-16
V	
VATTENFALL	U-39
VEBA	S-13
VOLKSFÜRSORGE HOLDING	L-42
W	
WALGREEN	R-49
WAL-MART STORES	R-2
WARBURG (S.G.) GROUP	F-45
WASTE MANAGEMENT	S-49
WESTDEUTSCHE LANDESBANK	B-36
WEST JAPAN RAILWAY	T-21
WESTON (GEORGE)	S-39
WESTPAC BANKING	B-70
WETTERAU	S-75
WINN-DIXIE STORES	R-26
WINTERTHUR GROUP	F-33
WINTERTHUR LIFE	L-47
WOOLWICH BUILDING SOCIETY	I-9
WOOLWORTH	R-29
WÜSTENROT HOLDING	I-19
Y	
YAMAICHI SECURITIES	F-38
YAMATO TRANSPORT	T-44
YASUDA FIRE & MARINE INS.	F-44
YASUDA MUTUAL LIFE	L-13
YASUDA TRUST & BANKING	B-29
YORKSHIRE	I-50
Z	
ZENSHINREN BANK	B-63
ZURICH INSURANCE	F-21

B—COMMERCIAL BANKING COMPANIES page 213 I—SAVINGS INSTITUTIONS page 218 R—RETAILING COMPANIES page 220 T—TRANSPORTATION COMPANIES page 221
F—DIVERSIFIED FINANCIAL COMPANIES page 215 L—LIFE INSURANCE COMPANIES page 219 S—DIVERSIFIED SERVICE COMPANIES page 211 U—UTILITIES page 224

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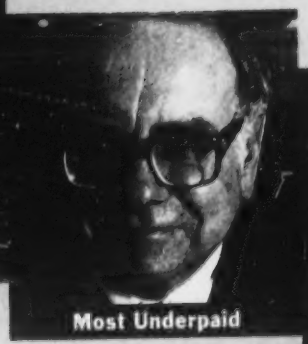
Most Underpaid

Most Political

THE BILLIONAIRES

PLUS: HOW THEY GIVE THEIR MONEY AWAY

Richest Japanese

Richest Queen

Richest of All

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SEPTEMBER 7, 1992 VOL. 126, NO. 5

FORTUNE

THE BILLIONAIRES/COVER STORIES

ABOVE: Billionaire Ted Turner of Turner Broadcasting System and his wife, Jane Fonda. Photo by Reuters/Bettmann.

THE BILLIONAIRES 86

It's the frugal 1990s, and the world's 233 wealthiest individuals and families seem to be cooling the spending. One reason conspicuous consumption has become less popular: Times are a bit tough even for those in the lap of luxury—the net worth of the average billionaire on our list hasn't risen by as much as a C-note since last year. The Sultan of Brunei remains the wealthiest, but if you weren't born into a royal family, take hope: A number of the ultra-rich, like Bill Gates, are self-made. *by Stephanie Losee*

HOW THEY GIVE THEIR MONEY AWAY 92

Some do good for the worst of reasons, but many are motivated by a genuine desire to leave a better world behind them. And nowhere are philanthropists more openhanded than in the United States, thanks in part to its tax code. *by Alan Farnham*

THE BILLIONAIRES LIST 98

The wealthiest people in the world, ranked by riches. *by Stephanie Losee and Ani Hadjian*

"Actually, this has been one of the best years of my life."

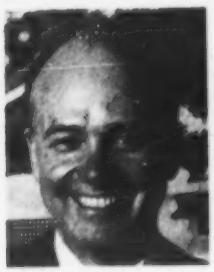
8

"The down cycle was so rough, I think the up cycle is going to surprise a lot of people."

56

"I don't think I've ever heard him give a direct order. But we all know exactly what he expects of us."

70



"The single most important measure of a CEO is his company's stock price."

76

"You've got to put in the same amount of work in giving money away as you do in making it."

92

"I'm like a farmer, but instead of reaping a crop twice a year, mine comes in 12 times a year."

98

JAPAN

DOES JAPAN PLAY FAIR? 38

While official protectionism is largely gone, Americans still battle cartels, old-boy networks, and outright corruption. The U.S. must keep the pressure on. *by Edmund Faltermayer*

AUTOS

LEE IACOCCA'S PARTING SHOTS 56

About to retire as CEO, he sounds off—brash as ever—on his 46-year career, the Japanese, the unions, Chrysler's outlook, Ross Perot, posterity, and what he'll do with the rest of his life.

THE ECONOMY

WHAT WILL YOUR HOUSE BE WORTH? 62

More than the prophets of housing gloom have warned, but less than you might have hoped only a few years ago. Here's how to think about your castle-as-investment now. *by Rob Norton*

TECHNOLOGY

TECHNOLOGY TO WATCH 68

Recent discoveries about what causes Alzheimer's bring with them the promise of a cure for the debilitating disease. *by Gene Bylinsky*

CORPORATE PERFORMANCE

THE BOUNCE IS BACK AT GOODYEAR 70

Not only is CEO Stanley Gault, the retired chairman of Rubbermaid, slashing the debt and boosting new products, he is running the company on trust. *by Peter Nulty*

COMPANIES TO WATCH 75

Low prices make Little Switzerland, a Caribbean jewelry store chain, shine. *by Richard S. Teitelbaum*

MONEY & MARKETS

A WHOLE NEW WAY TO RUN A BANK 76

At maverick Bankers Trust, holding loans is out, sexy new derivatives are in. The company wants to take on every risk its clients face—but can it handle its own risk? *by Carol J. Loomis*

HOW BANKERS TRUST LIED ABOUT $80 MILLION 78

DEPARTMENTS

EDITOR'S DESK 4

INDEX 6

NEWS/TRENDS 8

China's stock market crush, who gains from a North American free-trade deal, quaking sales in California, junk bonds make a comeback, and more.

FORTUNE FORECAST 21

Why consumers won't pull the economy out of the doldrums. *by Vivian Brownstein*

Also: A model for Bush—plug in the numbers and he wins.

PERSONAL INVESTING 25

Safe stocks for when those trusty market indicators are out of whack. *by William E. Sheeline*

Also: A double-digit return in real estate, and Portfolio Talk with Thomas Sowanick of Merrill Lynch.

LETTERS TO FORTUNE 34

KEEPING UP 155

Learning to love Japanese baseball players, toupee insurance, and other matters. *by Daniel Seligman*

FORTUNE

1 2 3 4 5

THE BILLIONAIRES

6 7 8

COVER: (1) Bill Gates (photo by George Lange), (2) Ted Turner (Rick Maiman—Sygma), (3) Athina Roussel (James Andanson—Sygma), (4) Warren Buffett (Claudio Edinger—Gamma/Liaison), (5) Ross Perot (Steve Starr—Saba), (6) Taikichiro Mori (Peter Sibbald), (7) Queen Elizabeth II (Jayne Fincher—Gamma/Liaison), (8) Sultan of Brunei (Universal Pictorial Press).

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EDITOR'S DESK

ON THE TRACK OF BILLIONAIRES

ONE IS RUNNING for President of his country. Two have been sentenced to jail. Three have spent unusual sums to help business friends. All are on FORTUNE's sixth annual list of the world's billionaires. For particulars, see our cover package (page 68).

Rounding up the rich, from left: Keehan, Farnham, Connelly, Hadjian, Nabers, and Losee

And what do they tell us about ourselves—and our times? Well, first, that you *can* still make huge fortunes. Many started with little or nothing. Second, that the surest routes to wealth have been investing in the media, real estate, oil, and retailing. Third, the billionaires—just like you and me—are affected by the more subdued mood of the 1990s. Says Julie Connelly, who for several years has edited our stories on them: "Billionaires are more low key this year. They don't seem to make such a deal about spending, and more are getting into politics and religion."

They are also into philanthropy, though probably less so than in lusher years, as associate editor Alan Farnham reveals in his story on page 72. Reporter Stephanie Losee compiled our list and wrote the comments on most of the people on it. For three months she worked well into the night identifying the 233 individuals and families who deserved to be on it—and many more who didn't. She also coordinated a battalion of correspondents around the world and interviewed some of the billionaires herself. Joining Losee was reporter Ani Hadjian, who chased down tips from biographers, industry analysts, dealmakers, and rivals to help find and evaluate hidden assets (and debts). William Nabers searched the world for photos, and Maria Keehan designed the layouts.

Senior writer Ed Faltermayer also checked with a remarkable number of experts to answer the question, "Does Japan Play Fair?" (page 22). "I wanted to know if Japan really does have us checkmated, or whether we have a fighting chance to do something about our trade deficit," he says. In Faltermayer's balanced article, based on more than 100 interviews in Japan and the U.S., he explores in vivid detail the many subtle obstacles that face foreigners doing business in Japan. Just as impressive is his commentary about how the U.S. is weakening itself. Says Faltermayer: "If we don't wake up and do something about our low savings rate and get off this consumption binge, it is not going to matter much what Japan does."

Writer Faltermayer

Marshall Loeb

MANAGING EDITOR

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The BILLIONAIRES

By Stephanie Losee

MONEY NEVER goes out of style, but spending it sometimes does. As we downshift from the extravagant 1980s to the penurious 1990s, many of the 233 wealthy individuals and families on FORTUNE's sixth annual list of the world's billionaires seem to be cooling it a bit and turning to other pursuits. Consider: The **Sultan of Brunei**, 46, at $37 billion still the world's richest person, recently made his third trip to Mecca. Most Muslims go only once in their lives. The heirs of **Sam Walton**, whose collective $24 billion retailing fortune is the second biggest of all, have jobs and are no more interested in ostentation than was Sam himself, who rented subcompact cars and checked into budget motels on business trips. **Taikichiro Mori**, the richest man in Japan and third on the list with a net worth of $14 billion, largely from real estate, still goes into the office even though he's 88, and lives so modestly that he can't understand why he's famous as a billionaire.

There's another reason rich folks may be easing up on the wallet. Even for them, times are a bit tough. The net worth of the average entrant on FORTUNE's list—$2.7 billion—hasn't risen by so much as a C-note since last year. And if the cost of living for the average Walton or Hearst rose 3.1% in the U.S., just imagine how much estate maintenance went up in, say, Brazil, where the rate of inflation is over 200%. But misery loves company, and the wealthy surely have that. There are more of them than ever, with 45 new arrivals on our list, 24 departures, and ten returnees.

One of the new arrivals is the youngest richling ever, **Athina Roussel**, 7, who ousted the aging German **Prince Albert von Thurn und Taxis**, 9, from that spot. Granddaughter of the late shipping magnate Aristotle Onassis, Athina inherited virtually every Onassis drachma when her mother, Christina, died of a heart attack in 1988 at 37. The child won't have control of her money until her late teens, and for now she lives in Switzerland with her father, Thierry Roussel; his Swedish wife; and their two children. Roussel is wealthy in his own right as the heir to a French pharmaceutical fortune. By way of contrast, the oldest billionaire is Japan's **Tamesaburo Furukawa**. Though retired as the head of Nippon Herald Films, a movie distributor, he is still healthy and paying cash for his purchases at 102.

Despite what you read about the size of the national debt or the fee that Arnold Schwarzenegger charges to appear in a film, $1 billion is an unfathomable amount of money. Deposit it in a money market fund yielding 3.15% and you will earn $85,479.45 *every single day*, including Sundays.

Although you might think such wealth has to be inherited, much of it is self-made, often in just a couple of decades. Microsoft's **Bill Gates**, 36, started his company when he was 19 and had his first billion by the time he was 32. For **David Geffen**, 49, a newcomer to our list, the billion came a little slower—but not much. In the late 1960s and early 1970s, he founded two small music companies, signing singers like Linda Ronstadt and Jackson Browne, and then sold each venture for a total of just under $10 million. The big money came in the 1980s, when Geffen Records went platinum with groups like Guns N' Roses. Then, the *big* big money: In 1990, MCA bought Geffen Records for $545 million in stock, and when Matsushita swallowed MCA just eight months later, Geffen cashed

BILLIONAIRE BREEDING GROUNDS

United States	64
Germany	27
Japan	18
Switzerland	13
Britain	10
Hong Kong	10
Italy	10
Saudi Arabia	9
Greece	8
Brazil	7

It's the frugal 1990s, and the world's 233 wealthiest individuals and families seem to be cooling their spending. Some have discovered religion, others politics. The Sultan of Brunei remains the richest of all, but if you weren't born a sultan, try building a media company.

■ Of course these people are smiling. You would, too, if you had their bank accounts. Clockwise from top left: Ross Perot, on the campaign trail; Whitney MacMillan, great-grandson of the founder of Cargill, America's largest privately held company; Ted Turner and his new wife; Queen Elizabeth, on a June visit to London's Leicester Square; and another Elizabeth, with Joan Kroc, at an AIDS benefit.

out for $710 million. A year and some choice bonds later, he has his billion, liquid as warm butter.

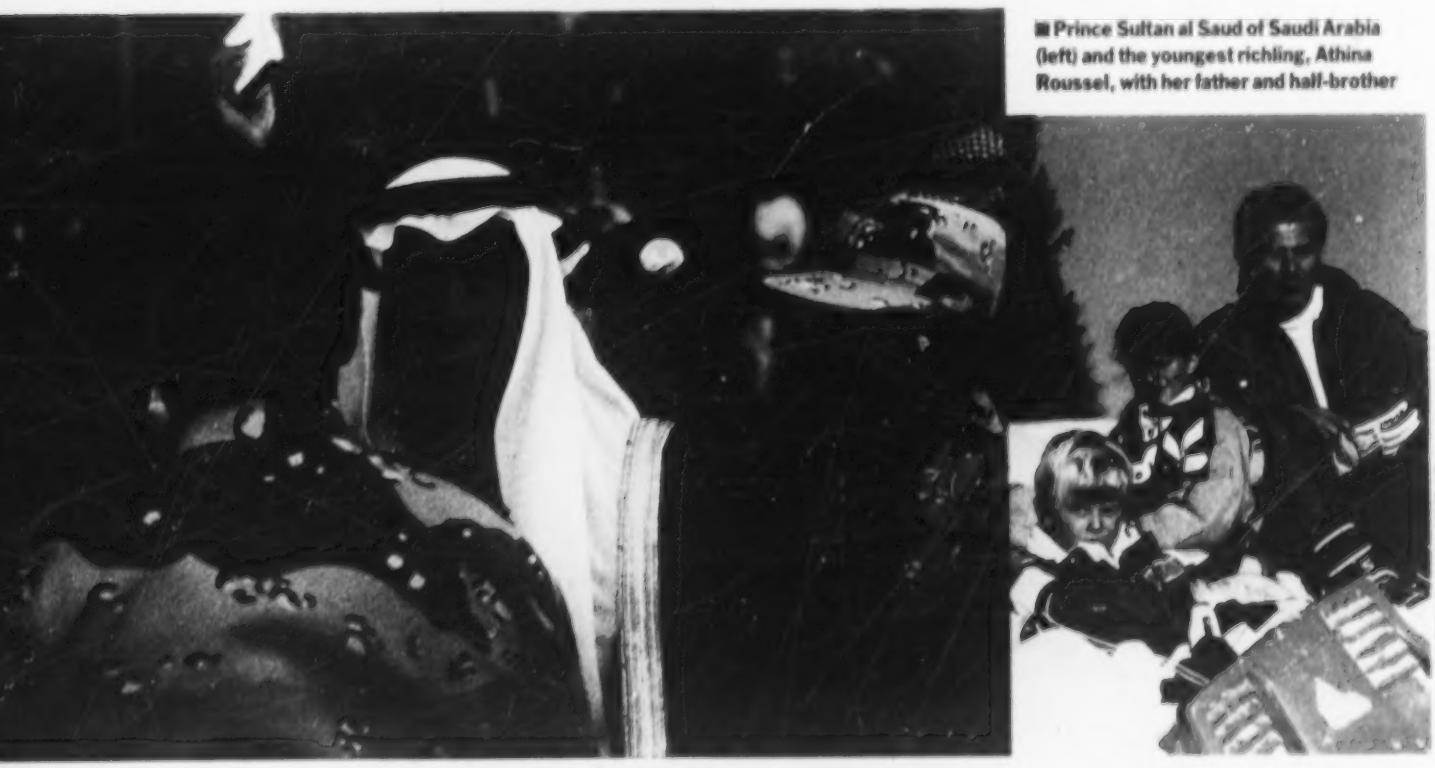
There's something about being self-made that often gives a plutocrat the feeling he can take on the bureaucrats. Having created Hyundai, which makes cars, **Chung Ju-Yung**, 76, is now running for President of Korea against the powerful Roh Tae-woo regime, whose economic policies he doesn't like. Unfortunately, Chung's campaign has been tainted by the suspiciously timely charges brought by the government against his son, Mong-hun, for forgery and tax evasion. Mong-hun awaits trial. **Luciano Benetton**, 57, Italy's sweater king, is also a senator in the national parliament, where he complains about government spending while sporting examples of his own snappy menswear. And then, of course, there's Perot Systems Corp.'s founder, **Ross Perot**, 62, the man who never quite said he would be king but seemed to want the crown handed to him anyway.

The Land of Opportunity has produced the most people capable of taking advantage of it, and so there are 64 American billionaires. In North America, as in the rest of the world, one of the surest roads to big riches is through ownership of the media—to which fully 38 on the list owe at least part of their pelf. Their publishing and broadcasting properties have made siblings **Samuel Jr.** and **Donald Newhouse**, 64 and 62, respectively, the world's fifth-richest family, and newspapers have made **Kenneth Thomson**, 69, Canada's wealthiest citizen. Not that you'd know it from the way he flings his money around. "I can still remember the Depression," says the man who brings his papers to work in plastic bags.

CHILE, the Philippines, and Jordan are contributing billionaires to the list for the first time. The three Chileans: **Anacleto Angelini**, 78, who sold a lock factory to buy a dilapidated fishing fleet and built the fleet into a diverse empire that includes oil refining and forestry; **Elidoro Matte Ossa**, 85, who comes from an old-money family with interests in papermaking and banking; and **Andronico Luksic Abaroa**, 70, and his clan, who have interests in hotels, breweries, banks, railroads—you name it. **Mercedes Zobel de Ayala McMicking**, 84, and her family have the Filipino financial world covered with their activities in banking, insurance, and real estate, and Jordan's **Abdul-Majeed Shoman**, 80, is the Palestinian known as the PLO's banker because some believe his Arab Bank is the main depository for PLO funds.

Not every billionaire remains one, of course, and this year real estate, often the wealthmaker, remains the wealth breaker. Shopping center developer **Edward DeBartolo**, 83, dropped into the nine digits when his debt started to consume his mall empire, forcing him to stretch out the payments on his roughly $4 billion in bank loans. Sound familiar? Canada's **Reichmann** family, No. 4 on last year's list, have traceable wealth outside the beleaguered Olympia & York of less than $1 billion. But who knows? Meanwhile, O&Y staggers under debts reported to be around $18 billion.

The kamikaze Japanese stock market did in Keyence's **Takemitsu Takizaki**, 47, and THK's **Hiroshi Teramachi**, 68; both saw the share price of their companies decline by over 55% since the beginning of the year. The Domino's Pizza man, **Thomas Monaghan**, 54, took the kneading away from his executive team when the company's sales dropped from $2.7 billion in 1990 to $2.5 billion last year. Monaghan even shed his prized Bugatti antique car and is selling the Detroit Tigers baseball team to archrival Mike Ilitch of Little Caesars Pizza. Yup, it's been a year to keep the wallet zipped.



Prince Sultan al Saud of Saudi Arabia (left) and the youngest richling, Athina Roussel, with her father and half-brother

■ You see? They're not so different from you and me. Clockwise from top left: Barbara Davis, showing off her husband Marvin's fortune; David Geffen, relaxing in his simple Malibu pad; Al and Judy Taubman, on a typical night out; Prince Albert von Thurn und Taxis, with the family; Keizo Saji, chairman of Suntory. For more about the ordinary folks on these pages, see the Billionaires List.

continued

HOW THEY GIVE THEIR MONEY AWAY

Some do good for the worst of reasons, but many are motivated by a genuine desire to leave a better world behind them.

By Alan Farnham

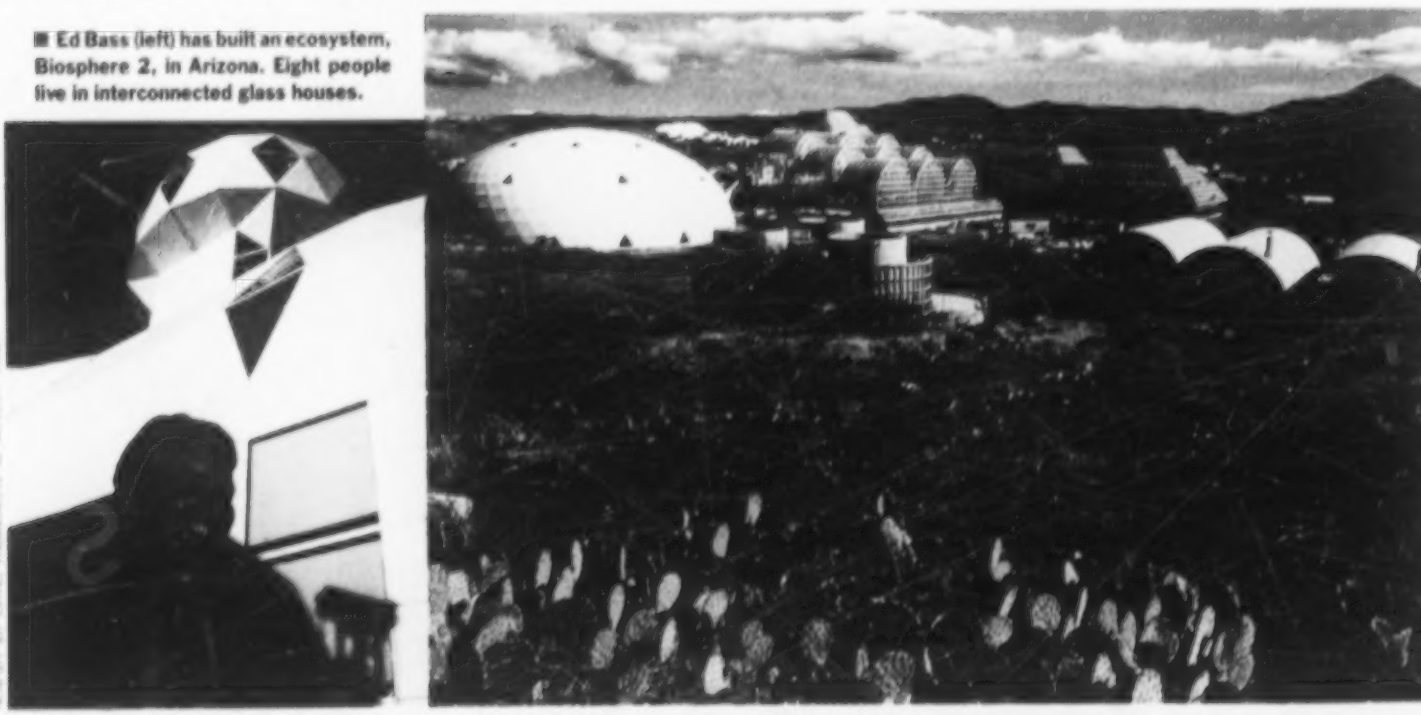
BROTHER, can you spare a billion? Since the time of the Medici, great philanthropists have answered "Sure," and spared it or its equivalent. Not content merely to pile up assets, they have sought through good works to gain renown and, perhaps, preferred seating in the hereafter. In the U.S. alone, their quest has showered the public with universities (Duke, Stanford, Johns Hopkins), hospitals (Peter Bent Brigham, Sloan-Kettering), prizes (Pulitzer), concert halls (Carnegie), scholarships (Guggenheim), and museums (Frick). Against so prodigal a backdrop, how do today's rich measure up?

On an inflation-adjusted basis, not too well. Some of today's most generous gifts look pretty paltry compared with the benefactions of yesteryear. Consider industrialist Henry Rowan's recent present of $100 million to Glassboro State College in New Jersey. Generous? Most certainly. But nowhere near as impressive as James Duke's $80 million to Duke University nearly 70 years ago: Adjusted for inflation, it's worth $645 million today. Even computer billionaire **David Packard**'s $2 billion to medical research seems small next to the $350 million Andrew Carnegie had spent by 1919 to build 2,600 public libraries (and do other good works). Its equivalent today: $4.6 billion.

After a decade in which the rich succeeded in making themselves only richer, it would be wonderful to say that they had also become more generous. Unfortunately, they did not. Though *total* U.S. giving from foundations, bequests, individuals, and corporations more than doubled during the 1980s, the share given by the rich, as a class, declined. Of the $125 billion raised for charity in the U.S. last year, 83%—some $103 billion—came from individuals. This amount worked out to be 2.13% of their pretax income.

The American Association of Fund-Raising Counsel, a trade association for fund raisers, sponsored a study of the giving habits of people with annual incomes of $1 million or more. During the 1980s, membership in this club swelled 14-fold, but the club's

■ Ed Bass (left) has built an ecosystem, Biosphere 2, in Arizona. Eight people live in interconnected glass houses.



■ **Paul Mellon loves pictures, like this James Shannon portrait of his mother, and loves giving them away. At right is his Yale Center for British Art.**

collective giving grew only fivefold. Result: By decade's end, the annual giving of the average member had fallen 60%, to $83,900.

That worries experts on philanthropy, who hope the decline is only a temporary aberration. As philanthropy consultant Waldemar Nielsen, author of *The Golden Donors*, points out, the people who made their fortunes in the 1980s are, by definition, the *new* rich. And they don't have the same attitude toward philanthropy as do older, longer-established Samaritans. They hang on to their money, reinvesting it in their businesses. When they do give it away, they're likely to do so at the end of their careers.

If history is any guide, the checkbooks will open—eventually. While no country has a patent on generosity, philanthropy as practiced in the U.S. is unique. In Asia and in Europe, money for good works comes mainly from those institutional Medici, corporations. In Middle Eastern cultures, giving noncash gifts—hospitality, for instance—is the highest form of magnanimity.

Only in America have so many individuals given so much private cash for public good. There are a number of reasons: a benign tax code, a fluid society that allows first-generation rich folks to buy their way into the establishment, a belief that one can purchase immortality, and a genuine desire to do good. The wealthy in other nations are affected by these attitudes too, but not to the extent that they are in the U.S.

REPORTER ASSOCIATE *Wilton Woods*

NOWHERE are the tax man and the philanthropist friendlier. Robert Daniels, a San Francisco tax lawyer, lays out the basics: "The IRS lets you deduct charitable contributions from taxable income. Depending on your bracket, you can save up to 31%. If you give $1 million, say, you can save $310,000. That means, after federal taxes, the gift cost you $690,000. When you give stock, you can deduct its full current value: If you bought stock for $1 that's now worth $1 million, you deduct $1 million."

Swiss billionaire **Jean-Claude Mimran** observes, without rancor, that *his* donations are not afforded such generous tax treatment in Switzerland—or in most of Europe. But that hasn't stopped him from giving to an orphanage in Tel Aviv and to many other causes. Snorts German billionaire **Johannes Mann**: "Of course there are more donors in the U.S. than in Germany. We pay more taxes than you do!"

As a vehicle for promoting social ambitions and for putting the patina of age on some raw, new fortunes, philanthropy can't be beat. Thomas Hoving, former director of New York's Metropolitan Museum of Art, says that's why the rich give to well-established charities that need their money less, and not to fledgling or little-known enterprises where the bucks might do more good. "Your gift has more social impact at the Met," Hoving says. "With the right gift, maybe you can even get yourself elected to the board."

Last autumn Robert Maxwell announced to the stunned faculty and students of the Polytechnic University of New York (endowment: $13 million) that he, as the new owner of New York's "hometown paper," the *Daily News*, would be giving them $10 million. Cap'n Bob having died at sea a week before the pledge came due, the school never saw a dime. Says the university's philosophic spokeswoman: "We have to consider what else he gave us. He was famous. He put us on the map."

Like the rest of us, rich people would like to live forever. The only difference is, they have the means to achieve it—at least in some fashion. To celebrate his roots, **Toichi Takenaka**, whose family has been in the construction business since 1610, has given $96 million to establish a Takenaka Museum of Carpenter's Tools in Osaka.

Immortality doesn't guarantee that your wishes will be respected after you die, unfortunately. When a donor turns over responsibility for his good works to professional managers, he runs the risk that, in time, their tastes and prejudices will sup-

The
BILLIONAIRES

■ **Givers and gifts: Left, Walter Annenberg has presented New York's Metropolitan Museum of Art with $1 billion in art; Bill Gates, a college dropout, donated $12 million to his hometown University of Washington to start a department of molecular biotechnology; and Anne Cox Chambers gives cash, yes, but time too, to raise money for animals.**

plant his own. Even a name chiseled in stone doesn't always stay chiseled. Earlier this year students at Dartmouth voted to recommend that Cutter Hall, named in honor of donor Victor M. Cutter, class of '03, be renamed the El Hajj Malik El Shabazz Temple, in honor of black radical Malcolm X. As a result, the Cutter family considered taking its name off a scholarship, and after much campus hullabaloo, Cutter Hall remains Cutter Hall.

Leland Stanford was not so lucky. After his death, the widow of the former governor of California, builder of the Central Pacific Railroad, and founder of Stanford University had this legend carved into the face of the Stanford University chapel: ERECTED TO THE GLORY OF GOD AND IN LOVING MEMORY OF MY HUSBAND LELAND STANFORD. The devout objected that this seemed to give the governor top billing lengthwise: Stanford 23, God 3. After Mrs. Stanford's death, the university's trustees moved the inscription to the chapel's interior, where it is harder to see.

THOUGH PAUL MELLON reckons he has given away more than $600 million in his lifetime—he's 85 and the money came from banking—his two museums, the East Wing of the National Gallery and the Yale University Center for British Art, do not bear his name. He thinks that putting one's moniker on a gallery only discourages other collectors from giving it their art.

Since billionaires can't be sure of controlling their beneficences from the grave, they've learned to do what they can while they're still alive. Recipients of **Ross Perot**'s philanthropy can tell you that, sometimes, the only thing worse than not getting Perot's money is getting it. He doesn't like to give without strings attached, and he isn't shy about yanking them when the money isn't used to his satisfaction.

But Perot has also given *more* money t he was asked for. In 1987 the Dallas Sy phony, which had already tapped him $10 million, was well along building a c cert hall when architect I. M. Pei decided wanted a few improvements, including onyx lighting fixtures at $50,000 ea (When a previous Pei project, Dallas's hall, had gone over budget, locals tool calling him "U. Will Pay.") The symph board reported the concert hall's extra c to Mr. Perot and held its collective bre emitting nary a tweet while he reviewed changes. He decided the lamps and o additions were "worldclass" and kicked an additional $2 million. Dallas receive civic jewel, its luster marred only by proximity of a dumpy drive-in bank door. Observes docent Ilse Enteman ac "It's one of the few banks in Texas *didn't* fail."

Of all the reasons rich people give t

money away, one is, in a cynical world, often misunderstood: the simple desire to do good. Says Brazilian billionaire **Olacyr Francisco de Moraes**: "Obviously, what motivates a businessman is profits. But what gives us comfort and—why not say it?—makes us proud, is to see that our business activities are making a contribution to the economic and social development of the country."

He owns Itamarati Group, a conglomerate in agriculture, construction, mining, banking, and real estate. De Moraes is proudest of the social aid programs he has created for employees at four of the company's locations. Each has its own free hospital and doctor, dentists, pharmacy, school, and recreation and sports center. In staff salaries alone, each center costs about $200,000 a month.

Turkish industrialist **Sakip Sabanci**, 59, travels the world at his own expense as an unofficial ambassador for Turkish culture. His talks to student groups at home and abroad, he says, have brought him unexpected rewards: "During a conference at one of the universities in Istanbul, a young and pretty girl asked me what would I do if I had only another four months to live. I knew she was expecting an answer like: 'I would enjoy life going around with beautiful women.' So I said, 'No, I would not do that, but I would try hard to leave something behind for my country.' Very impressed, she stood up, came, and kissed me."

Checkbook philanthropy takes attention from the fact that, in ways both significant and small, givers give more than money. Microsoft co-founder **Bill Gates**, a Harvard dropout, donated $12 million to his hometown University of Washington in 1991 to start a department of molecular biotechnology. But he did more. He personally recruited professor Leroy Hood, a leading researcher, to head it. Gates felt Hood's leadership—as much as the money—was essential to the department's success. Of his first foray in philanthropy, Gates says, "What I discovered is that you've got to put in the same amount of work, and exercise the same degree of judgment, in giving money away as you do in making it."

On a lesser scale, **Anne Cox Chambers**, owner of Atlanta's Cox Enterprises (which owns newspapers and cable TV systems), raises money for a French humane society every summer by selling odds and ends from a booth at a flea market in L'Isle-sur-la-Sorgue. "The staid French ladies," she says, "are *shocked*—Mme. Chambers, selling in a booth!"

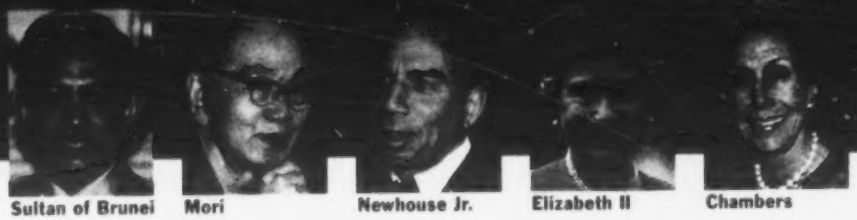
OF THE MANY CAUSES to which billionaires give, saving the environment is starting to become a favorite. So far, **Edward Bass**, whose fortune comes from Texas oil, LBOs, and investments, has sunk $150 million into Biosphere 2, a self-contained habitat in Arizona's Sonoran Desert, intended as a model for, say, space stations. Strictly speaking, his contributions are not philanthropy, since Bass hopes someday to license the technology that makes the system work. But *does* it work? Its eight occupants were supposed to stay sealed inside, strictly self-sufficient for two years. But when one cut off the tip of her finger last November and was removed to a local hospital for stitches, she returned lugging a big sack of maps, books, spare computer chips, and other supplies.

Switzerland's **Stephan Schmidheiny**, whose holdings include a watch company and a winery, has been called the Green Industrialist. Two years ago he gave $10 million to found the Business Council for Sustainable Development, which promotes cooperation between business and environmental leaders. At Rio's Earth Summit, he addressed the assembly on behalf of some 48 environmentally minded corporations worldwide.

Whatever giving does to improve the world, it sure makes the *givers* feel better. Says Olacyr de Moraes: "I do it, basically, for satisfaction." Champion philanthropist **Walter Annenberg**, who has donated $1 billion worth of paintings to New York's Metropolitan Museum, agrees: "It gives me a good feeling." The reason so much of Paul Mellon's charity has taken the form of buying paintings for museums is "purely selfish," he says. "Bunny [Mrs. Mellon] and I love pictures." Doesn't it bother him that all that money might be better spent on medical research or saving the environment? No. He figures he has that covered because much of his inheritance is in the hands of the Andrew W. Mellon Foundation, whose professional, independent managers can do with it whatever they think best. Who says money can't buy happiness?

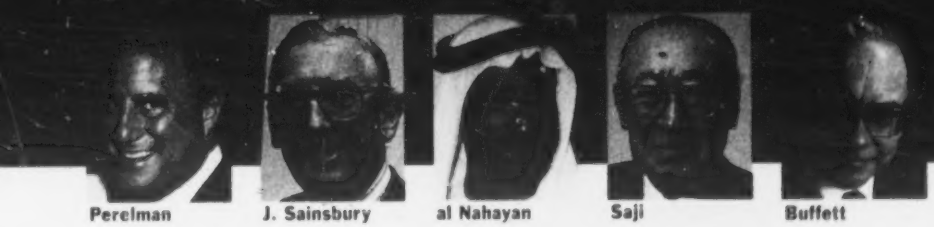
■ Sakip Sabanci (at home, left) promotes Turkish culture. Olacyr de Moraes funds social aid programs for his employees.

The BILLIONAIRES



Sultan of Brunei | Mori | Newhouse Jr. | Elizabeth II | Chambers

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
SULTAN HAJI HASSANAL BOLKIAH MU'IZZADDIN WADDAULAH, 46 and family	Bandar Seri Begawan BRUNEI	**$37.0**	**Investments; global real estate; oil and gas fields.** The Sultan of Brunei, 25 years on the throne of this tiny country that shares the island of Borneo with Maylasia and Indonesia, sure knows how to spend the world's biggest fortune. Practically everything in this petroleum-rich postage stamp belongs to him. Aside from the usual paintings and jewels, he also has the single-largest collection of Rolls-Royces: 153. But like many of his baby-boom contemporaries, the Sultan may be wondering if there's more to life than mere style. Hence, his third pilgrimage to Mecca—most Moslems go only once in their lives—last March.
HELEN R. WALTON, 72 **S. ROBSON WALTON,** 47 **JOHN T. WALTON,** 45 **JAMES C. WALTON,** 43 **ALICE L. WALTON,** 42	Bentonville ARKANSAS Bentonville ARKANSAS San Diego CALIFORNIA Bentonville ARKANSAS Bentonville ARKANSAS	**$24.0**	**38% of Wal-Mart.** The folksy merchant who revolutionized retailing, Mr. Sam was 44 when he opened his first Wal-Mart. But he had perfected his twin concepts of discounting and self-service at Ben Franklin, which he helped make the largest independent variety store operator in the U.S. With Mr. Sam gone, who will hover over traffic patterns in a small plane scouting potential Wal-Mart locations? Most likely his son Rob, the new chairman of Wal-Mart, or Jim, president of Walton Enterprises. But probably not John, who builds boats in San Diego, or Alice, who founded her investment banking firm, Llama Co., to provide capital for companies in overlooked areas of places like Arkansas and Oklahoma.
TAIKICHIRO MORI, 88 and family	Tokyo JAPAN	**$14.0**	**Mori Building Co.; real estate.** The richest man in Japan started making all those yen leasing Western-style high rises in Tokyo after World War II. Mori, who lives modestly, is always mystified to appear on FORTUNE's billionaires list. "I've seen on television how the billionaires in foreign countries live," he says. "They all have such nice houses. So even if you say I'm the top billionaire in Japan, I find it just a little odd."
FORREST MARS SR., 88 **FORREST MARS JR.,** 61 **JOHN MARS,** 56 **JACQUELINE MARS VOGEL,** 51	Las Vegas NEVADA McLean VIRGINIA McLean VIRGINIA Bedminster NEW JERSEY	**$13.0**	**100% of Mars Inc: M&M/Mars, Uncle Ben's Rice, Pedigree pet food, Mars Electronics.** The members of the Mars clan run their business like they run their lives: somewhat eccentrically. Co-CEOs John and Forrest Jr. share a secretary, shun private offices, and punch in every morning. They even taste-test the dog food. Woof! Woof! Their father used to call his sons from his retirement quarters near Las Vegas to harangue them about their shortcomings as managers.
SAMUEL I. NEWHOUSE JR., 64 **DONALD E. NEWHOUSE,** 62 and family	New York NEW YORK	**$13.0**	**100% of Advance Publications and Newhouse Broadcasting.** So reclusive that an employee reportedly once mistook him for the office carpenter, Si Newhouse can make his presence felt. Recently he exploded a bomb at the venerable *New Yorker* by bringing in a new editor, the spectacular Tina Brown of *Vanity Fair*. He manages the company's magazines and books while brother Don looks after the newspapers and broadcasting properties.
QUEEN ELIZABETH II, 66	London ENGLAND	**$11.7**	**270,000 acres of agricultural land; premier London real estate; vast stock portfolio; art; jewelry; stamps; porcelain; furniture; racehorses.** Oh, for the days when you could drown troublesome princes in a butt of malmsey! When the poor Queen is not dealing with her pouty first-born and his marital problems, she's having to face a second son and his. Worse, her billions and baubles are at risk with the Brits threatening to withdraw her tax-exempt status. But Liz could have the last laugh, skipping over troublesome Charles and handing her crown to young Prince Wills.
KING FAHD BIN ABDUL-AZIZ AL SAUD, 72 and family	Riyadh SAUDI ARABIA	**$10.0**	**Saudi Arabia's oil and gas resources.** King Fahd is known as a generous man, and has given millions to rebuild and restore the holy cities of Mecca and Medina. But at 72, in ill health and overweight, his recent munificence may also stem from a realization he doesn't have all that much time left.
ANNE COX CHAMBERS, 72 **BARBARA COX ANTHONY,** 69	Atlanta GEORGIA Honolulu HAWAII	**$8.2**	**97% of Cox Enterprises.** What is it about publishing dynasties? The ever richer Cox sisters, who also own a media company, appear to be female counterparts of the aloof Newhouse brothers. But Anne has always been interested in Democratic politics—her father, James, was the 1920 Democratic presidential candidate—and is thought to be putting a few of her bucks behind Bill Clinton.
JOHN WERNER KLUGE, 77	Charlottesville VIRGINIA	**$8.1**	**95% of Metromedia Co.; real estate; cash.** No longer married to high-living playgirl Pat, Kluge seems to have dropped off the social pages. But he still figures in the business section, most recently when his pal Arthur B. Krim, the co-founder of Orion Pictures, asked him to save the prestigious but bankrupt movie studio. Kluge obliged, handing over $240 million for 70% of the company.

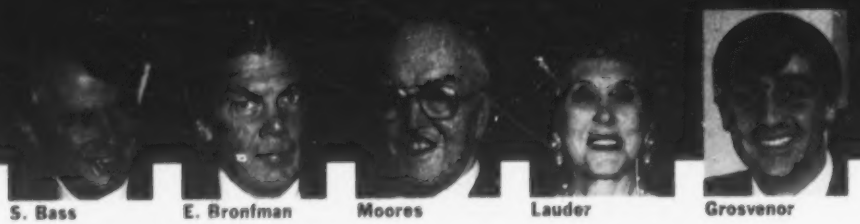


Perelman J. Sainsbury al Nahayan Saji Buffett

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
GAD RAUSING, 70 **HANS RAUSING,** 66	London ENGLAND Sussex ENGLAND	**$7.2**	**100% of TetraPak, liquid-food packaging.** The Rausings' tetrahedron-shaped liquid containers were the invention of the century until a competitor introduced a so-called biodegradable plastic pouch. Environmental legislation and this new product from their competitor have occupied Tetra's managers, but the 1991 merger with the Alfa Laval company, whose machines fill Tetra's containers, promises to help bolster Tetra's competitiveness.
SHEIKH JABER AHMED AL SABAH, 66 **and family**	KUWAIT	**$7.0**	**Vast foreign investments; real estate.** Kuwait's treasury and Jaber's fortune are separate entities, which is a good thing for Jaber as his country tries to rebuild its Gulf war-torn infrastructure. But war has sure been hell for the Sheikh. When the Palestinians left Kuwait, he lost thousands of tenants for his apartments.
KENNETH R. THOMSON, 69	Toronto CANADA	**$6.2**	**71.1% of Thomson Corp., publishing; 73% of Hudson's Bay Co., department stores; 81.2% of Markborough Properties; art; real estate.** Canada's richest man is a Depression-era kid who still carries his papers in a plastic bag. Says Thomson: "My wife, Marilyn, gives me briefcases, but I'm a sucker for plastic bags. They do the job so well. I can still remember the Depression. I'm living better than most people. But I spend with my eyes open."
WILLIAM GATES III, 36	Seattle WASHINGTON	**$5.9**	**30.5% of Microsoft.** Yes, America's boy billionaire is still the U.S.'s most eligible bachelor. But he's hardly had time for a wife. The company he co-founded with Paul Allen (see below) just 17 years ago now has roughly the market value of GM, and in March the company announced its acquisition of Fox Software. Does Gates intend to dominate the database software market the way he does the operating systems software market?
RONALD OWEN PERELMAN, 49	New York NEW YORK	**$5.3**	**100% of MacAndrews & Forbes Holdings: Revlon, Coleman Cos., 21% of National Health Laboratories; 60% of Marvel Comics; 100% of First Gibraltar Bank.** Ron Perelman is still trying to de-Eighties his balance sheet, selling some companies and taking others public. Ron and wife Claudia, whose marital problems are well publicized, keep confounding gossip columnists with their on-again, off-again union.
LORD ALAN SAINSBURY OF DRURY LANE, 90 **SIR ROBERT SAINSBURY,** 84 **LORD JOHN SAINSBURY OF PRESTON CANDOVER,** 65 **DAVID SAINSBURY,** 51	London ENGLAND	**$5.2**	**35.7% of Sainsbury's: supermarkets.** At 65, Lord John stepped down as chairman of Sainsbury's after one of the best years in the company's 123-year history. But the handoff to cousin David was marred by shareholder objections to the firm's decision to open on Sundays.
SHEIKH MAKTOUM BIN RASHID AL MAKTOUM, 52 **and family**	Dubai UNITED ARAB EMIRATES	**$5.0**	**Oil; investments.** Maktoum rules the tiny state of Dubai, which he runs with his three full brothers: Hamdan, Mohammad, and Ahmed. As Prime Minister of the UAE, he has strengthened the union even at the cost of reducing Dubai's independence. The people of Dubai revere him as a benevolent source of grants for building houses or plots of land for wedding gifts.
SHEIKH ZAYED BIN SULTAN AL NAHAYAN, 77 **and family**	Abu Dhabi UNITED ARAB EMIRATES	**$5.0**	**Oil; real estate; investments.** Most Abu Dhabians believe that the collapse of Bank of Credit & Commerce International was a Western plot to destroy a successful Muslim bank. Whether Zayed shares this feeling or not, he held a majority stake in the infamous institution, and reportedly had his family stop making foreign investments after BCCI's failure forced him to offer $1.7 billion from the state's treasury to compensate depositors.
KEIZO SAJI, 73 **and family**	Hyogo JAPAN	**$4.9**	**89.5% of Suntory, Japan's largest liquor manufacturer; real estate.** When Keizo's father, Shinjiro Torii, founded Suntory in 1899, it was known only as a whiskey distiller. Under Keizo, whose surname is Saji for reasons so foggy not even the company knows why, Suntory added beer, wine, and soft drinks to its liquor cabinet. Keizo is well liked, but has been known to put his foot in it. Last year, during the Japanese stock market scandals, he announced: "The companies compensated for securities losses must be ostracized." One week later he found out Suntory was one of these companies, and so he apologized for his outburst.
WARREN EDWARD BUFFETT, 62	Omaha NEBRASKA	**$4.8**	**45% of Berkshire Hathaway.** At 195 pounds, investor Warren Buffett is worth 5,600 times his weight in gold, but you don't have to tell that to shareowners of Berkshire Hathaway. In June, Buffett stepped down from the job as Salomon Inc.'s interim chairman. Like many self-made rich people, Buffett prides himself on frugality: His salary from Salomon was $1.

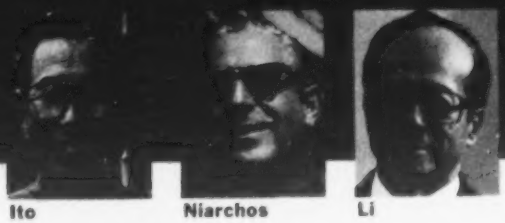
NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES



S. Bass E. Bronfman Moores Lauder Grosvenor

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
PERRY BASS, 78 **SID RICHARDSON BASS,** 49 **EDWARD PERRY BASS,** 47 **ROBERT MUSE BASS,** 44 **LEE MARSHALL BASS,** 35	Fort Worth TEXAS	**$4.7**	**18.9% of Disney; securities; real estate.** The Bass family's inherited oil fortune is growing faster than this clan of Yale and Stanford grads can give it away. But ecopreneur Edward is trying by footing most of the bill for Biosphere 2. Says patriarch Perry: "You can only eat so much. You can only wear so many clothes. I've got some nice paintings. Now I'm not buying any more. I don't have anyplace to hang them."
CHARLES KOCH, 56 **DAVID KOCH,** 52	Wichita KANSAS New York NEW YORK	**$4.7**	**80% of Koch Industries.** Having bought out siblings William and Fredrick for a reported $620 million in 1983, energy barons Charles and David now control America's second-largest private company. Internecine strife continues among the four Koch boys, though in May, David magnanimously congratulated William for winning the America's Cup yachting finals.
EDGAR M. BRONFMAN, 63 **CHARLES R. BRONFMAN,** 61 **PHYLLIS BRONFMAN LAMBERT,** 66 **and family**	New York NEW YORK Montreal CANADA Montreal CANADA	**$4.6**	**37.6% of Seagram Co.; commercial real estate; cash.** Luckily premium liquors haven't suffered the same luxury backlash as impressionist paintings and couture. In fact, the Bronfmans have been dumping lower-margin brands—when health-conscious North Americans tipple, they don't want to waste it on second-rate stuff.
ARTHUR EDWARD GUINNESS, EARL OF IVEAGH, 23 **and family**	London ENGLAND	**$4.6**	**Iveagh Trustees Ltd.: real estate, oil, ranching, transport, securities; 2% of Guinness PLC.** The Guinness family was active in their brewery for 233 years until the third earl resigned from the board in June and subsequently died of throat cancer. Now the fourth earl, son of No. 3, though still in school, is head of the family.
OTTO BEISHEIM, 70	Baar SWITZERLAND	**$4.5**	**33% of Metro Group; 50% of Kaufhof AG, department stores; 33% of Pelikan, office equipment manufacturers.** At 40, when other men were starting their midlife crises, Beisheim launched the retailing business that would make him a billionaire, and the richest Swiss. Nearly 30 years later Metro is still eating up companies, most recently trying for Asko Group, which Beisheim is going after with the help of a fellow ten-digit nabob, Klaus Jacobs (see below) and other investors.
JOHN PAUL GETTY, 60 **GORDON PETER GETTY,** 58	Buckinghamshire ENGLAND San Francisco CALIFORNIA	**$4.5**	**Trusts; inheritance; investment.** While Mahler-loving Gordon composes in California, ex-heroin user J. Paul tightens the security at his Wormley Estate. But some troubles penetrate even the best security. J. Paul's daughter, Aileen, 32—Elizabeth Taylor's former daughter-in-law—has the AIDS virus.
SIR JOHN MOORES, 96 **and family**	Formby ENGLAND	**$4.5**	**Littlewoods Organization: mail order, retail stores, football pools, catalogue shops, banking, real estate.** Littlewoods's profitable football pools are being threatened by the prospect of a government-sponsored national lottery. No problem, says Chairman Leonard van Geest, who is rumored to be diversifying into sports broadcasting and retailing in St. Petersburg. Littlewoods is the first major British retailer in Russia.
ESTÉE LAUDER, 84 **and family**	New York NEW YORK	**$4.3**	**100% of Estée Lauder.** The tenacious and enduring beauty queen still occasionally tests fragrances for her company but no longer manages its day-to-day operations. That job falls to her older son, Leonard, who is trying to apply Youth Dew to his company's increasingly middle-aged image.
GERALD GROSVENOR, DUKE OF WESTMINSTER, 40 **and family**	Chester ENGLAND	**$4.0**	**Inherited real estate holdings and commercial properties in London, Hawaii, Chicago, Boston, and San Francisco.** The sixth Duke of Westminster claims he and wife Natalia weren't going for the "heir and a spare" when she gave birth to first son Hugh after two daughters. But with Natalia expecting a fourth child in October, it looks like the spare—and the inheritance of the duke's title—may be safely in place.
ERIVAN KARL HAUB, 60	Mulheim GERMANY	**$4.0**	**100% of Tengelmann AG, Germany's largest supermarket chain; 52% of Great Atlantic & Pacific Tea Co.** Nicknamed the "Green Billionaire" for his ecological zeal, Haub's been pretty zealous about enlarging his empire too. In 1991 alone Tengelmann acquired 930 stores, increasing its holdings by more than 17%.
KONRAD HENKEL, 77 **and family**	Dusseldorf GERMANY	**$4.0**	**100% of Henkel Group: detergents, chemicals, hygienic products, cosmetics, and epoxies.** Konrad Henkel no longer chairs the chemical business his grandfather founded, and the company is being run by professional managers. In Konrad's view, this is just as it should be. But he still shows up at functions, and his modern art remains in the halls of the company's 19th-century administrative building where it puzzles the employees. His wife Gabriele continues to give her lavish parties.



Ito Niarchos Li

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
MASATOSHI ITO, 68 **and family**	Tokyo JAPAN	**$4.0**	**17% of Ito-Yokado, a supermarket chain; 9.4% of 7-Eleven Japan; 9.3% of Denny's Japan; 4.4% of York-Benimaru, supermarkets.** Masatoshi introduced American-style distribution to Japan through his supermarkets, then dotted the country with Yankee-like fast-food joints. Last year his company acquired 64% of its franchisor, Dallas-based Southland Corp., which was in Chapter 11.
STAVROS NIARCHOS, 83	St. Moritz SWITZERLAND	**$4.0**	**Shipping; real estate; cash; art; racehorses.** Stavros Niarchos and Aristotle Onassis spent their lives competing for premier status in the shipping world—and in the bedroom. Both were married to the same woman, Christina Livanos, but apparently neither succeeded in making her happy. Niarchos won the longevity contest, but his health is now so frail that he claims, "I am concentrating what little energy I have on staying alive."
PRINCE SULTAN BIN ABDUL-AZIZ AL SAUD, 68	Riyadh SAUDI ARABIA	**$4.0**	**Saudi Arabia's oil riches; real estate.** King Fahd's full brother is the Saudi Defense Minister and second in line to the throne. Like Fahd, Sultan is generous. During Ramadan, the month of fasting when Saudis traditionally exchange gifts, Prince Sultan has been known to give away $500,000 in a single evening.
JOHANNA QUANDT, 65 **SUSANNE QUANDT,** 29 **STEFAN QUANDT,** 26	Bad Homburg GERMANY	**$4.0**	**60% of BMW; securities.** Though Herbert Quandt's widow is still staying out of the spotlight, BMW, the company her late husband bailed out in 1959, sure isn't. Sales were up 10% last year to $18 billion. Quandtlings Susanne and Stefan each have the same 20% stake in the company that Mom does plus some other holdings. Stefan just came into his inheritance this year—but what car does the BMW boy buy to celebrate?
YASUO TAKEI, 62 **and family**	Tokyo JAPAN	**$4.0**	**81.6% of Takefuji, consumer loans.** A common Japanese saying is that if you work twice as hard as the average person, you will succeed. Since Yasuo Takei thinks success comes from working *seven* times as hard as average, it's no wonder that, having founded Takefuji in 1968, his bank account now dwarfs those of mere two-timers. Five years ago image-conscious Takei quit smoking so that the global community wouldn't look upon him as "worthless."
SHIN KYUK-HO, 69	Seoul KOREA	**$3.9**	**41.4% of Lotte Group: real estate, hotels, confectionery, department stores.** Bubble-gum promoter Shin was born in Korea and still makes it his home, but he founded the Lotte Group in Japan and is more fluent in Japanese than in his native tongue. Never one to miss possible promotion opportunities for his confections, Shin Kyuk-Ho owns Lotte Giants baseball team.
TOICHI TAKENAKA, 49 **and family**	Tokyo JAPAN	**$3.9**	**42.5% of Takenaka Komuten, construction.** You do make a few contacts after nearly 400 years in business, so Takenaka Komuten, founded in 1610, was engaged to build Emperor Hirohito's residence in Tokyo, and subsequently awarded the contract to construct the elaborate facilities for his 1988 funeral. More modern projects include the Tokyo Bay bridge.
LI KA-SHING, 64	HONG KONG	**$3.8**	**35% of Cheung Kong Holdings; 40% of Hutchison Whampoa, 9% of Canadian Imperial Bank of Commerce, securities, real estate.** It might interest American CEOs to know that the wealthiest man in Hong Kong pays himself an annual director's fee of $641. Of course, Li does collect a dividend or two. But not art. He once accumulated jade, but gave up the hobby after breaking a favorite piece; and he still lives in the same hilltop house he moved into 30 years ago.

WHAT LIES BEHIND THE NUMBERS

Estimates of net worth are based on published information or on appraisals of asset values. To qualify, a prospect must have a net worth—total assets after subtracting debt—of $1 billion or more. For those with holdings in publicly traded companies, the value of their shares was computed using the closing price on July 15. Currency conversions into U.S. dollars were based on July 15 exchange rates.

To determine the value of holdings in private companies, FORTUNE identified similar public companies, made reasonable adjustments for dissimilarities, and calculated a value based on the current market value of the public counterparts. In some cases we used prices paid for similar companies in recent takeovers or buyouts. Where data are lacking for ownership of shares in private companies, we used the best information available from persons knowledgeable about the companies.

The list includes individuals or a "nuclear" family composed of husband and wife, parent and child, siblings, or some combination of those relationships. We exclude cousins and in-laws, though when brothers and their children are involved in a business, the cousins obviously have a stake in a single fortune. Where it is clearly documented that family members share in the single fortune, we list them by name; where ownership boundaries are unclear, we note "and family." When the wealth is explicitly concentrated in the hands of one individual, we list him or her alone.

We are indebted to our correspondents. Sources outside the *Time* and FORTUNE network: Japan—Teikoku Data Bank, Nikkei Business, and Haruhito Funaki; Switzerland—Rico Carisch; Germany—Wanda Menke-Gluckert; Canada, Spain, Mexico, Central and South America—Adam Corelli; Italy—Karen Wolman; Hong Kong—Otto Tien; Brazil—Bill Hinchberger; Thailand—Peter Beal; Indonesia—Wahyu Indrasto; Korea—Yang Bo-gyoung; France—Andrew Rosenbaum; the Netherlands—Alan Dickey; Brunei and Singapore—Stephen Vines; South Africa—Peter Hawthorne; Australia—Ivor Ries. Data gathering was supervised by FORTUNE reporter Stephanie Losee, assisted by Ani Hadjian, Alison Rogers, Leslie Brenner, Ricardo Sookdeo, and Rosalind Klein Berlin.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
RINJI SHINO, 83	Wakayama JAPAN	**$3.8**	**Diverse holdings in real estate, art, restaurants, gas stations, manufacturing, and services.** Japanese real estate prices dipped this year, but Shino's doubled; his main holding is close to the international airport under construction near Osaka. It's tough nailing down Shino's fortune—one estimate put it at just $4 million. The billionaire's response: "Oh, they must have based that on the real estate prices I reported to the tax authorities."
WALTER KWOK, 42 **THOMAS KWOK,** 41 **RAYMOND KWOK,** 40	HONG KONG	**$3.6**	**46.8% of Sun Hung Kai Properties.** While developers around the world are suffering the effects of Eighties speculation, the Kwok brothers are happily putting up apartment buildings and watching their stock rise by 50% in a matter of months. Their late father would be proud: Self-made Tak-Seng got his start as a zipper salesman and educated his sons in British schools even though he never learned English himself.
ANACLETO ANGELINI, 78 **and family**	Santiago CHILE	**$3.5**	**30% of Copec: gas stations, pipelines, refining, forestry, natural gas distribution; fishing companies.** Born in Italy, Angelini fought in Ethiopia during World War II and then moved to Chile to supervise the building of a lock factory. With money from his onetime comrades-in-arms, he invested in the factory, then sold it and put the proceeds into dilapidated fishing fleets. In the early 1960s, Angelini bought out his partners and then moved sagaciously on to trees and oil.
WILLIAM R. HEARST JR., 84 **RANDOLPH A. HEARST,** 76 **and family**	New York NEW YORK	**$3.4**	**40% of Hearst Corp.** William Randolph Hearst never gave his sons control of the company while he was alive. Now, 41 years after his death, the Hearstlings still play a minor role in the publishing corporation that has been likened to a Medici court—where all is favoritism.
KENNETH COLIN IRVING, 93 **JAMES KENNETH IRVING,** 63 **ARTHUR LEIGH IRVING,** 60 **JOHN E. IRVING,** 57	Hamilton BERMUDA New Brunswick CANADA New Brunswick CANADA New Brunswick CANADA	**$3.4**	**Timberland in Canada and Maine; paper mills; Irving Oil; newspapers; shipbuilding; oil tankers.** It's not easy to get the inside scoop on the all-seeing, all-controlling Irving family—employees caught blabbing to journalists about corporate business know they will be fired. But since the Irvings employ roughly one in 12 people in New Brunswick and would like to have a similarly impressive count in the northern U.S., it might be hard to keep everybody quiet.
TSAI WAN-LIN, 67 **and family**	Taipei TAIWAN	**$3.4**	**47.5% of Cathay Life Insurance, Taiwan's largest life insurance company.** Tsai Wan-Lin wasn't too surprised when his firm was denied a banking license in 1990; another branch of his family was involved in a banking scandal five years earlier. But he's still a long way from the days when he and his brothers ran a fruit and vegetable stand to pay the rent.
GIANNI AGNELLI, 71 **and family**	Turin ITALY	**$3.3**	**39.4% of Fiat Group: cars, newspapers, department stores.** This has not been a good year for Chairman Agnelli. The Fiat automotive business has been hemorrhaging market share in Italy and throughout Europe. And an unsuccessful attempt to swallow Perrier, the French sparkling water company, left the family expecting a sizable capital gain, but it got instead a very bitter aftertaste as Nestlé grabbed the bottle from them.
MONGKOL KANCHANAPAS, 71 **ANANT KANCHANAPAS,** 50 **KEREE KANCHANAPAS,** 41	Bangkok THAILAND	**$3.3**	**58% of Bangkok Land Ltd.; Seiko watch distribution; watch manufacturing in Hong Kong and Switzerland; financial services; cable television; urban transportation systems.** Mongkol Kanchanapas took his profits from selling watches and invested them in land; just 30 years later because of booming land values, the family is sitting on Thailand's biggest fortune. The Thai government awarded Keree's Tanayong Co. a 30-year contract to build a $1 billion light railway system in Bangkok.
H. ROSS PEROT, 62	Dallas TEXAS	**$3.3**	**Perot Systems Corp.; cash; real estate; oil and gas production.** He came, he saw, he conquered, he slipped, he quit. That's the story of Ross Perot's not-quite presidential campaign. Turned out the guy who borrowed $1,000 from his wife to start EDS, the software company that he later sold to GM, didn't want to use his own money to run for President either.
SUMNER M. REDSTONE, 69 **and family**	Newton Center MASSACHUSETTS	**$3.2**	**100% of National Amusements; 75.6% of Viacom Inc.** Having been a leader building movie theaters across the country, Redstone has decided to turn his attention elsewhere because, he says, "the film industry is no longer recession resistant." Meanwhile, he is emphasizing his cable TV and other businesses that he inherited with his acquisition of Viacom in 1987. A personal note: His grandchildren call him "Grumpy," a name he chose because, he says, "It has no age connotations and because it's consistent with what some people say is my personality—which is not true."

Berlusconi Flick Rich Thyssen-Bornemisza

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
GARFIELD WESTON, 65 **W. GALEN WESTON,** 51 and family	London ENGLAND Toronto CANADA	**$3.2**	**57% of George Weston Ltd.; Holt-Renfrew stores; 63% of Associated British Foods.** Garry's ABF is still digesting British Sugar, which he bought last year to prepare for increased competition from European Community members. Galen's Canadian Loblaws and Holt-Renfrew are suffering from the Canadian recession, but the polo-playing socialite distracts himself whacking the ball around with Prince Charles.
KARL ALBRECHT, 72 **THEO ALBRECHT,** 69 and family	Essen GERMANY Mulheim an der Ruhr GERMANY	**$3.0**	**100% of ALDI: 3,568 supermarkets throughout Europe and the U.S.; 10.9% of Albertsons, the Boise-based supermarket chain.** Here's one solution to sibling rivalry: Split the empire geographically and stay off each other's turf. Theo's discount supermarkets dot the Benelux countries, France, the former East Germany, and the northern half of the old West Germany; Karl's serve southern Germany, Austria, Britain, and the U.S. This strategy seems to work: Last year the German stores alone generated $16 billion in revenues.
SILVIO BERLUSCONI, 55	Milan ITALY	**$3.0**	**100% of Finivest: TV networks, real estate, insurance; 82% of Standa department stores.** Berlusconi was recently voted most popular man by Italian school kids, far outranking Jesus Christ *and* Michael Jackson. He's a little less popular with the Italian government, which ruled recently that his ownership of Milan's *Il Giornale* newspaper gave him an illegal monopoly of the media. So Silvio sold it to his brother, Paolo.
RICHARD M. DeVOS, 66	Manalapan FLORIDA	**$3.0**	**50% of Amway.** Amway business partners Richard DeVos and Jay Van Andel (see below) weren't always counting their billions. Their first venture, an air charter and flying school, crashed three years after its takeoff in 1945. They bought a schooner for Caribbean cruises, but it soon sank. Undaunted, they created Amway in 1959.
FRIEDRICH KARL FLICK, 65	Munich GERMANY	**$3.0**	**Cash; investments.** The past 12 months haven't been the happiest for Flick, whose pelf comes from his 1985 sale of various companies to Deutsche Bank. A mistress he had paid to keep quiet about their affair and her abortion 32 years ago told friends who blackmailed Flick. Flick denied it was his child though he paid for the abortion. He successfully sued the friends, and the sordid mess became public. Then he had to pay $6 million to ransom his brother-in-law who was kidnapped in Austria. But the money, some 0.2% of Flick's fortune, was eventually recovered. Every little bit helps.
LAWRENCE, LORD KADOORIE, 93 **HORACE KADOORIE,** 89 **MICHAEL KADOORIE,** 80	HONG KONG	**$3.0**	**62% of Hong Kong & Shanghai Hotels; 34% of China Light & Power; 21% of Hong Kong Carpet.** Legend has it that Lawrence and Horace's father, Sir Elly, left Baghdad in 1880 and eventually went to Shanghai, where he began working as a clerk for distant relatives. When they objected to his using a barrel of disinfectant to wash down their offices during an epidemic, he quit, borrowed the equivalent of $80 from an uncle, and began investing. If cleanliness isn't next to godliness, it's way ahead of whatever is.
SULAIMAN ABDUL-AZIZ AL RAJHI, 64 and family	Riyadh SAUDI ARABIA	**$3.0**	**51% of Al Rajhi Banking & Investment Corp.; real estate; agricultural enterprises.** The Al Rajhi banking business has come a long way from the 1940s, when Sulaiman buried gold bullion in the ground near Jiddah's airport and slept on it overnight before he caught the morning flight to Riyadh, where it brought a higher price. But the family is by no means modern. The bank's offices still use makeshift partitions and threadbare carpets, and the four brothers have over 130 children among them.
MARC RICH, 57	Zug SWITZERLAND	**$3.0**	**50% of Marc Rich & Co., commodities trading.** Though still on the lam to evade U.S. tax officers, Rich trades alumina, aluminum, and oil in a number of the 50 states. He's busy negotiating with the U.S. government so he can move freely about the world again. But a recent Supreme Court ruling opening the door for the American government to kidnap criminals from other countries may force him to accelerate negotiations.
PAUL SACHER, 86	Basel SWITZERLAND	**$3.0**	**30% of Hoffmann-La Roche.** Paul Sacher and his late wife, Maja Hoffmann, had a partnership in more ways than one. The landscaper's son met the rich widow through their mutual interest in music and rekindled her interest in the company. When she died, her stake was split between Sacher and the two children (Lucas Hoffmann and Vera Oeri-Hoffmann) of her first marriage. But Sacher has continued to build up his holdings.
BARON HANS-HEINRICH THYSSEN-BORNEMISZA DE KASZON, 71	Madrid SPAIN	**$3.0**	**100% of Thyssen-Bornemisza Group; art; real estate.** Baron "Heini" has so little interest in running his company and so much interest in spending its proceeds that eldest son George is said to have demanded his father cut back. Heini's art collection, recently valued at $2.5 billion, doesn't pay dividends. Selling his private jet and luxury yacht was hard for the Swiss-born Baron and his fifth wife, Tita.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

Slim Helu Bettencourt

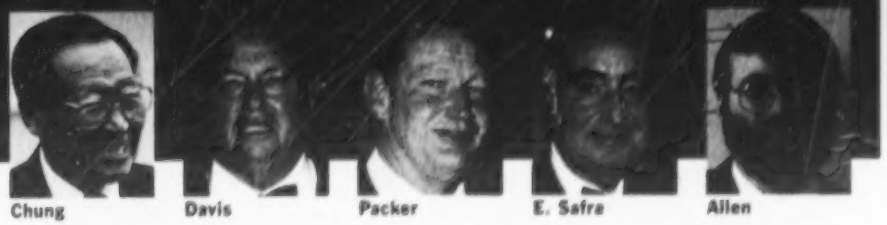
NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
JAY VAN ANDEL, 68	Ada MICHIGAN	**$3.0**	**50% of Amway.** You could never accuse Amway of ignoring a potential market. Van Andel and Richard DeVos expanded operations to Brazil, Portugal, and Indonesia this year alone and are considering China as the site for a new manufacturing plant.
KUNIO BUSUSHIMA, 68 **and family**	Kiryu JAPAN	**$2.8**	**79.7% of Sankyo, the world's largest pachinko machine manufacturer.** Busushima founded his upright pinball machine maker in 1966, but the company didn't take off until 1980 with the "Fever" line of pachinkos. Fever incorporates a slot machine and is called *digi-pachi* for the numbers that come up on the slots. When Sankyo was finally listed on the Tokyo stock exchange last year, Busushima exclaimed, "If I weren't prohibited by law, I'd buy our company's stock now!"
FREDERICK H. FENTENER VAN VLISSINGEN, 59 **JOHN ARTHUR FENTENER VAN VLISSINGEN,** 53 **PAUL FENTENER VAN VLISSINGEN,** 51	Hilversum NETHERLANDS	**$2.8**	**70% of Steenhoken Handels Vereniging: energy, scrap metal, retailing; Flint Holding; investments.** The Fentener etc. brothers have significantly restructured their assets this year. Last fall John, head of Noro Group, an investment firm, successfully defended himself against charges that he manipulated the firm's funds to maximize the brothers' profits. But in June the family sold its massive stake in Noro and sank the money into another investment firm.
KARL HEINZ KIPP, 68	Arosa SWITZERLAND	**$2.8**	**Commercial and resort real estate; cash.** Even a billionaire has got to plan for his retirement. Kipp sold off his Massa stores in 1986 but kept the real estate underneath so that he was guaranteed a steady income of $50 million a year until 2015. Then he moved to Swiss tax heaven to enjoy his golden years. Who needs Social Security?
LIEM SIOE LIONG, 76 **and family**	Jakarta INDONESIA	**$2.8**	**Full and partial ownership of over 500 companies, including Indocement, Indosteel, Indomilk, Bank Central Asia Group, and Bogasari Flour Mills.** Liem Sioe Liong, known as Sudono Salim in Indonesia, is the proprietor of perhaps the biggest and most diversified business conglomerate in Asia. He is often surprised to discover he owns a certain company—even after he has witnessed the ceremonial ribbon cutting.
CARLOS SLIM HELU, 52	Mexico City MEXICO	**$2.8**	**Grupo Carso: stakes in Teléfonos de México, Inversora Bursátil, a brokerage house; and Seguros México, a leading Mexican insurer.** Takeover artist Slim is an influential member of the informal group of 38 businessmen who are attempting to elevate Mexico from Third to First World. Like many a gringo raider, Slim has bought terminally inefficient companies and brought them back to life by boosting their productivity.
EDWARD GAYLORD, 73	Oklahoma City OKLAHOMA	**$2.7**	**Oklahoma Publishing; Opryland USA; real estate.** In a state better known for oil tycoons, Ed Gaylord makes his billions from ink. But the blunt right-winger despises the press in spite of profits that gush from his newspaper, television, and radio conglomerate. Maybe that's because Gaylord is second-generation richfolk, who had to wait until he was 55 to run the family biz.
THOMAS SCHMIDHEINY, 47 **STEPHAN SCHMIDHEINY,** 45	St. Gallen SWITZERLAND Zurich SWITZERLAND	**$2.7**	**Nueva: construction supplies; Unotec: high-tech investing; 17% of SMH watch manufacturing; 6% of ABB electronics; Anova: packaging and real estate; Holderbank Financiere Glarus Ltd., cement; Cuvaison winery.** This was a year of startling business highs and staggering personal lows for the Schmidheiny freres. Their father, Max, and their younger brother, Alexander, both died. But Stephan, the co-author of *Changing Course*, a best-seller on ecology, played a starring role at the Earth Summit in Rio. Thomas has taken over Alexander's award-winning California winery.
LILIANE BETTENCOURT, 69	Paris FRANCE	**$2.6**	**25% of L'Oréal: perfumes and cosmetics; 4% of Nestlé; 30% of Cosmair.** It seems that Bettencourt's tidy arrangement with Nestlé may soon fall apart. Nestlé owns a controlling share of L'Oréal, and now Nestlé Chief Helmut Maucher says he has an option to acquire Bettencourt's remaining share of the company in 1994. She claims this is news to her, and it's easy to see why she wants to hang on to L'Oréal—it has made her the richest woman in France.
WILHELM VON FINCK, 64 **AUGUST VON FINCK,** 62 **and family**	Munich GERMANY	**$2.6**	**Real estate in and around Munich; 90% of Löwenbräu breweries; 100% of Würzburger Hofbräu breweries; 50.2% of Mövenpick Holding AG.** When brothers August and Wilhelm von Finck split the family fortune in 1990, August took the companies and Wilhelm took most of the land. Since then Wilhelm has been relaxing on his acres while August has tried to engineer a turnaround at the Mövenpick restaurant and hotel conglomerate he bought in February.

Ziff Jr. Kamprad Olayan Y. C. Wang Annenberg

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
EMILIO AZCARRAGA MILMO, 63 **LAURA AZCARRAGA DE WACHSMAN,** 41 **ALEJANDRO BURILLO AZCARRAGA,** 40 **EMILIO AZCARRAGA JEAN,** 23	Mexico City MEXICO	**$2.6**	**64.5% of Televisa, a Mexican media giant.** Emilio Azcárraga—otherwise known as El Tigre—is the Ted Turner of Spanish-language entertainment, minus the movie-star wife. Televisa beams its wares into 90% of North America's Spanish-speaking homes, as well as 18% of living rooms in Spain. Now the ever hungry Tigre owns a minority stake in Univision, Hallmark's Spanish-language TV broadcaster.
LAURENCE ALAN TISCH, 69 **PRESTON ROBERT TISCH,** 66 **and family**	Rye NEW YORK Harrison NEW YORK	**$2.6**	**29% of Loews Corp.: includes 23% of CBS; 50% of the N.Y. Giants; stakes in various banks.** Larry's last-minute bid to play Santa to R.H. Macy failed when Prudential Insurance, a leading Macy's creditor, decided to play Scrooge. But CBS has finally reemerged as the king of the Nielsen ratings, and some of those doggy bank stocks proved to be greyhounds after all. Now if the Giants were only worth watching again.
WILLIAM BERNARD ZIFF JR. 62 **and family**	Manalapan FLORIDA	**$2.6**	**100% of Ziff Communications: media company; cash.** Ziff made a lucky bet when he sold off his consumer and trade magazines for $712 million in 1984 and kept a couple of small computer mags. Today his publications, which include *PC Magazine*, are as thick as telephone books with advertising the rest of the industry pines for, and Ziff had the wherewithal to launch six computer magazines in the past 12 months.
INGVAR KAMPRAD, 66	Lausanne SWITZERLAND	**$2.5**	**IKEA home furnishings.** Ironically, the only people who can afford Sweden's stiff taxes are the ones, like Kamprad, who move to Switzerland to avoid them. Having discovered that "It's a big country. Someone's got to furnish it," IKEA is now the third-largest retailer in the U.S. Eastern Europe is pretty unfurnished too, and Kamprad's stores are now popping up there ready to decorate.
RUDOLF AUGUST OETKER, 75	Bielefeld GERMANY	**$2.5**	**100% of Oetker Group; food, shipping, breweries, banking, insurance.** The Oetkers claim that their company has turned a profit every one of its 101 years, and papa Rudolf is going to make sure it stays that way. With every hausfrau and hausherr in Germany baking with Oetker products, there are a lot of thick waistlines at stake. Rudolf's son August, 48, officially runs the conglomerate, but Dad assembled a management team of three outsiders to watch over the young whippersnapper.
SULIMAN SALEH OLAYAN, 74	Riyadh SAUDI ARABIA	**$2.5**	**Olayan Group: machinery imports, construction, food and consumer products.** Olayan behaves much like a Western—read American—capitalist. He owns Saudi Arabia's only Coca-Cola franchise and prefers to put his money in U.S. stocks, especially bank shares. Even his wife, Mary, is American born.
Y. C. WANG, 75 **Y. T. WANG,** 70 **and family**	Taipei TAIWAN	**$2.5**	**10% of Formosa Taffeta Corp.; 25% of Formosa Chemical & Fibre Corp.; 9.4% of Formosa Plastics Corp.; 15% of Nan Ya Plastics Corp.** Lately, Wang Yung-Ching spends his days in far-off New Jersey, overseeing Formosa Plastics' American operations. But soon he may have to bid farewell to that exotic land and head home. After long delays he prevailed over environmentalists and bureaucratic lethargy, and received permission to build his $2.2 billion naphtha cracking plant in Taiwan.
WALTER H. ANNENBERG, 84	Wynnewood PENNSYLVANIA	**$2.4**	**Cash; securities; real estate; impressionist and postimpressionist art.** America's most prolific philanthropist is still looking for paintings to fatten his magnificent art collection. Annenberg told FORTUNE that he would give any new purchases to New York City's Metropolitan Museum of Art, which is already tearing down walls to find room for his 1991 bequest of 55 works valued at $1 billion.
SRICHAND P. HINDUJA, 56 **GOPICHAND P. HINDUJA,** 51 **PRAKASH P. HINDUJA,** 47 **ASHOK P. HINDUJA,** 41	London ENGLAND London ENGLAND Geneva SWITZERLAND Bombay INDIA	**$2.4**	**100% of Hinduja Group: trades in steel, ores, fertilizers; oil; investment banking; chemical and pharmaceutical manufacturing.** The Hindujas' fairy tale had a Grimm ending this year. Sri's son, Dharam, died in an apparent suicide pact with his wife, Ninotchka, in May. The two were secretly married in January, but the boy's Hindu parents had opposed his relationship with an Anglo-Indian Catholic. The lovers doused a mattress with paint thinner and set it on fire. Although their hands were bound, Ninotchka freed herself and escaped.
GENSHIRO KAWAMOTO, 60	Tokyo JAPAN	**$2.4**	**Marugen Co.: real estate in Japan, Hawaii, and California.** Even with stale real estate markets, Genshiro Kawamoto can't build enough houses and apartments in the U.S. and Japan to accommodate the long waiting lists of people who want to move into his buildings. Says he: "There are just not enough houses for everyone. My contribution to society is building affordable houses for ordinary people." Ordinary folks, that is, who can afford as much as $2,000-a-month rents.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES



Chung Davis Packer E. Safra Allen

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
REINHARD MOHN, 71	Gutersloh GERMANY	**$2.4**	**89.3% of Bertelsmann AG, the media conglomerate.** When Reinhard Mohn retired as chairman of Bertelsmann, he told his executives: "What you inherit from your fathers you must earn anew to make it truly yours." Certainly Mohn took his own advice. In only 44 years he managed to turn his father's tiny hymnal publisher into the world's largest media company until the 1989 merger of Time Inc. and Warner Communications pushed it into second place.
CHUNG JU-YUNG, 76 **and family**	Seoul KOREA	**$2.3**	**38.6% of Hyundai.** Known as the Ross Perot of Korea, Chung is running for President of his country. The parallels don't stop there. Chung is a feisty, self-made businessman who has attacked the powerful Roh Tae-woo regime for its economic policies. His campaign may end early as well. Fifth son Mong-hun was charged with forgery and tax evasion this spring and awaits trial. The accusations have tainted his father's campaign.
MARVIN DAVIS, 67	Los Angeles CALIFORNIA	**$2.3**	**Davis Cos.: Davis Entertainment Co., Davis Oil Co.; Miller Davis Co., real estate development.** Davis's whalelike proportions are a good measure of his financial heft. Having sold out at the top of the Denver oil boom many years ago, he continues to make money. In 1987 he sold the Beverly Hills Hotel to the Sultan of Brunei a mere eight months after he bought it, and turned a quick $65 million. Now he is trying to remedy Spectradyne, a pay-per-view TV service, with an exchange of its publicly traded debt for lower-interest-rate bearing securities.
KERRY PACKER, 54	Sydney AUSTRALIA	**$2.3**	**100% of Consolidated Press International Holdings.** After taking Consolidated private in the early Eighties, Packer made a U-turn and brought its two largest divisions public over the past year. The move raised over $1 billion for Packer and $750 million that went toward reducing Consolidated's debt. That leaves an enviable balance sheet for Packer's successor, Al Dunlap, to pass on to Packer's son, James, who will run the company when Dunlap steps down.
EDMOND J. SAFRA, 60 **MOISE SAFRA,** 58 **JOSEPH SAFRA,** 54	Geneva SWITZERLAND São Paulo BRAZIL São Paulo BRAZIL	**$2.3**	**29% of Republic New York Corp.; 20.6% of Safra Republic Holding; Banco Safra SA; cash.** Born in Beirut, raised in Brazil, and now living in Switzerland, banker Edmond is still hopping the globe—here to attend a party, there to accept an award. Meanwhile, brothers Moise and Joseph, who stayed in Brazil, are moving beyond finance into pulp and papermaking. A license to print money?
HENRI ANDRÉ, 54 **and family**	Prilly SWITZERLAND	**$2.2**	**André & Cie: agribusiness, commodity trading, tool manufacturing.** To this day, the André family has not acknowledged publicly that it controls Garnac, one of the six largest grain traders in the world, and thus a good portion of the earth's daily bread. One reason for the secrecy may be the family's reputed devotion to the Plymouth Brethren religious sect, which demands a life of frugality and humility.
LEE SHAU-KEE, 64	HONG KONG	**$2.2**	**62% of Henderson Land Development.** The super-private developer has discovered that providing housing for Hong Kong's middle class is a better road to riches than building condos for the capricious smart set. Now Lee has bought land in Guangdong on the mainland, hoping residents will exhibit the same enthusiasm as their colony counterparts.
ELIDORO MATTE OSSA, 85 **and family**	Santiago CHILE	**$2.2**	**90% of Compania Manufactera de Papeles y Cartones, paper; 68% of Banco Bice.** An old-money Chilean family, the Mattes have a tendency toward molasseslike decision-making, which has kept them from impetuous mistakes—and also from investment opportunities in other parts of Latin America.
WERNER OTTO, 82 **MICHAEL OTTO,** 49	Hamburg GERMANY	**$2.2**	**65% of Otto Versand, the world's largest mail-order company; 100% of Schwab-Versand, mail order.** The Ottos have big plans for selling goods to the East Germans, although none involve offering them ecologically incorrect fur coats or objects made from tropical woods. But Michael, under the watchful eye of father Werner, plans to invest at least $650 million to satisfy his new customers' desire to phone in orders round the clock.
PAUL ALLEN, 39	Seattle WASHINGTON	**$2.1**	**13.6% of Microsoft; Portland Trailblazers pro-basketball team; 70% of Asymetrix Corp.; 7% of Egghead Software.** Allen co-founded Microsoft with his high school pal Gates but was then diagnosed with Hodgkin's disease. In 1985, with his illness in remission, Allen created Asymetrix, a software development company, and now he is helping set up Interval Research Corp., an R&D firm for computer technology. After hours Allen shoots baskets in his own backyard court and attends most home Blazer basketball games.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

Wexner Koç Latsis LeFrak

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
LESLIE WEXNER, 54 **and family**	Columbus OHIO	**$2.1**	**28.7% of the Limited; 4.5% of Sotheby's Holdings.** There's been a big markdown in the Limited's stock, and Wexner's fortune declined this year by $1.5 billion. But no matter: Soon enough the inventive retailer will think of another store Americans didn't know they needed.
TED ARISON, 68 **and family**	Tel Aviv ISRAEL	**$2.0**	**70.5% of Carnival Cruise Lines; majority ownership of the Miami Heat pro-basketball team.** It wasn't just Kathie Lee Gifford's singing voice that made Carnival "the most popular cruise line in the world." The man behind that statistic was Arison, who originated the concept of cruises as entertainment for the middle class. Ted went back home to Tel Aviv to retire from Carnival last year and hit Israel at the same time as the Scud missiles.
SALIM AHMED BIN MAHFOUZ, 85 **and family**	Mecca SAUDI ARABIA	**$2.0**	**52% of National Commercial Bank in Jiddah; securities.** The Bin Mahfouz family sold their stake in BCCI to the Abu Dhabi Government in 1990, but that doesn't mean their troubles are over. Son Khaled was indicted on fraud charges, which he vigorously denies, in the BCCI scandal. Meanwhile, the family's National Commercial Bank, Saudi Arabia's largest, has suffered such defaults in its loans to royals that it hasn't issued an annual financial statement in two years.
MARGARET CARGILL, 72 **JAMES R. CARGILL,** 68 **and family**	Minneapolis MINNESOTA	**$2.0**	**28% of Cargill Inc.** Now in its 127th year, mammoth agribusiness corporation Cargill Inc. is still held firmly in family hands. Ownership is split among the Cargills and the MacMillans (see below), who were joined by marriage back in 1895.
TAMESABURO FURUKAWA, 102	Nagoya JAPAN	**$2.0**	**Nippon Herald Films: distributor of movies and owner of a chain of cinemas; Herald Groups: golf courses, ski areas, and restaurants.** Furukawa has been the world's oldest billionaire for so long that he may live to be the world's oldest person. Still healthy, he stays at home while son Hiromitsu runs his businesses. Furukawa and his companies are said to be virtually debt-free, and even now the old man pays for his purchases with cash.
ROLF GERLING, 38	Cologne GERMANY	**$2.0**	**70% of Gerling-Konzern, an international insurance company.** After his father Hans Günther died last July, Rolf Gerling sold 30% of the company to Deutsche Bank, and some of the proceeds will reportedly go to settle a huge inheritance tax bill. Fortunately for Rolf's three sisters, Hans settled with them before he died, so they're not stuck with death duties.
HENRY LEA HILLMAN, 73	Pittsburgh PENNSYLVANIA	**$2.0**	**Hillman Co. real estate, 49% of Exide Battery; Stuarts Drug & Surgical Supply; stock holdings; real estate.** This must be a lucky year for Hillman—hardly a mention of his name has appeared in the newspapers. The ultrasecretive plutocrat is thinking ahead and liquidating some of his assets to put his estate in order.
VEHBI KOÇ, 91	Istanbul TURKEY	**$2.0**	**Koç Holding: 96 companies in appliances, food, banking, insurance, construction, and tourism.** Fabled miser Vehbi Koç is still in perfect health, but in June rumors were flying around Turkey that the nonagenarian was not well. The reason: He allowed his grandson Mustafa to have the most luxurious Turkish wedding in three decades. Grandfather Vehbi interfered only to change the menu for the 2,000 guests from champagne and caviar to traditional Turkish dishes. He did, however, leave the party early to make his usual 10:30 P.M. bedtime.
JOHN SPYRIDON LATSIS, 82 **and family**	Rabigh SAUDI ARABIA	**$2.0**	**John S. Latsis Group: shipping, real estate, oil refineries, and banks.** The commodity that launched Greek industrialist Latsis into the billionaire league was dried fruit. The Latsis Group was born in 1938 when his shriveled product was so much in demand that he needed his own ships to facilitate trade. Today, Latsis cultivates relationships with the Prince and Princess of Wales as well as members of the Saudi royal family, who supply him with crude oil.
SAMUEL JAYSON LeFRAK, 74	New York NEW YORK	**$2.0**	**Real estate; 100% of LeFrak Oil & Gas; 100% of Lefrak entertainment; art.** During their sometimes public clashes, LeFrak questioned the wisdom of rival Donald Trump's "ritzy-glitzy operations," as Sam called them. Trump looked down his nose at LeFrak's thousands of commonplace Queens, New York, dwellings. But LeFrak's 92,000 apartments are still pulling in multimillions in steady rents. Says LeFrak: "I'm like a farmer, but instead of reaping a crop twice a year, mine comes in 12 times a year." Wouldn't The Donald be happy with just one of LeFrak's harvests?

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

W. MacMillan Packard R. Pritzker

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
CONSTANTINOS MICHAEL LEMOS, 81	Lausanne SWITZERLAND	**$2.0**	**Shipping; real estate; insurance; cash; investments.** Like many of his peers in shipping, Costas Lemos sold off much of his fleet in the late 1970s and early 1980s when he sensed a downturn ahead. But then he invested heavily in Greek real estate. At first his drachmas dwindled and it looked like the widely respected Lemos had made a bad call, but now prices have quadrupled as everyone expects future Eastern European tourists to spend their zlotys in the Mediterranean.
GEORGE P. LIVANOS	New York NEW YORK	**$2.0**	**Seagroup, Unisea, Seres, and Ceres Hellenic shipping companies; cash.** George P. and his cousin, George S. (see below) are often confused with each other. But George S.'s side of the family is the one that intermarried with Aristotle Onassis and Stavros Niarchos. George P., by contrast, focuses on business rather than the jet set and has quietly assembled the largest fleet in the Mediterranean.
CARGILL MacMILLAN JR., 65 **WHITNEY MacMILLAN,** 62 **PAULINE MacMILLAN KEINATH,** 58 and family	Palm Springs CALIFORNIA Wayzata MINNESOTA St. Louis MISSOURI	**$2.0**	**28% of Cargill Inc.** William Wallace Cargill lost the money he had made trading grain when he speculated in real estate over 80 years ago. His descendants haven't deviated from conservative business practices ever since, building a $49-billion-a-year commodities conglomerate. CEO Whitney MacMillan must retire in 1994, opening the possibility that a non-Cargill MacMillan might lead the company into the millennium.
JOHN HUGH MacMILLAN III, 64 **W. DUNCAN MacMILLAN,** 62 **MARION MacMILLAN PICTET,** 59 and family	Wayzata MINNESOTA Hillsboro Beach FLORIDA Geneva SWITZERLAND	**$2.0**	**28% of Cargill Inc.** The two MacMillan clans are great-grandchildren of founder W. W. Cargill, whereas the Cargill cousins—also billionaires—are his grandchildren. Confusing, no? Duncan, who is said to irritate other family members by occasionally speaking frankly about the company, directs Wayerosse, their private investment advisory firm.
SULTAN BIN ALI AL OWAIS, 67	Dubai UNITED ARAB EMIRATES	**$2.0**	**25% of the National Bank of Dubai; real estate; Pepsi distribution; water bottling.** Al Owais's wealth stems from pearl diving. He earned enough money trading pearls in Bombay to return home when Dubai first struck oil in 1966 and buy vast tracts of land for just $3.67 a square meter. The never-married Sultan drives a Chevrolet and still operates his trading company out of the drab office he leased 25 years ago.
DAVID PACKARD, 80	Los Altos Hills CALIFORNIA	**$2.0**	**12% of Hewlett-Packard.** Packard's story illustrates the cliché "if at first you don't succeed." The initial inventions he and his Stanford buddy William Hewlett came up with didn't set the marketplace on fire: a bowling alley foul-line indicator, a weight-reduction machine, and an electronic harmonica tuner. It wasn't until Walt Disney bought eight audio oscillators in 1938 to monitor the sound system of *Fantasia* that H-P took off.
JAY PRITZKER, 70 **ROBERT PRITZKER,** 65 and family	Chicago ILLINOIS	**$2.0**	**100% of Hyatt Corp.; Marmon Group; 85% of Ticketmaster; Conwood chewable tobacco.** Patriarch Nicholas Pritzker used to tell his family that the only immortality is the impact you have on your successors. By those standards, Pritzker, who died in 1957, will live forever. His successors have built a conglomerate with interests in about 60 businesses, while still maintaining offices in Nicholas's original law firm, Pritzker & Pritzker.
GRETE SCHICKEDANZ, 80 and family	Fürth GERMANY	**$2.0**	**100% of Quelle, mail-order and retail stores.** German unification has boosted Quelle's mail-order sales a stunning 40%, but the inadequate federal postal system and Quelle's difficulty in handling the increased volume have kept profits in the low single digits. Schickedanz has no intention of letting the company fritter away potential profits for long; her motto is "The pfennig is the soul of the billion."
MICHAEL SCHMIDT-RUTHENBECK **RAINER SCHMIDT-RUTHENBECK**	Lucerne SWITZERLAND Duisburg GERMANY	**$2.0**	**33% of Metro Group.** This reclusive family was already wealthy from its SPAR wholesale business in 1964, when Otto Beisheim approached them looking for investors in Metro Group. Now the company, a cash-and-carry giant that gets around Germany's strict rules about closing times by selling its goods wholesale, has generated so much cash that *brother* Schmidt-Ruthenbeck that it's getting difficult for them to continue hiding away in luxury.
DONALD BREN, 60	Newport Beach CALIFORNIA	**$1.9**	**93% of Irvine Co., real estate.** A few years back, the two real estate Donalds were worth nearly the same amount, but while Trump cedes chunks of his properties to his banks and bondholders, Bren quietly contemplates the development of his 63,000 California acres. He says he expects to be shaping the Orange County property into his 90s. Unlike most developers whose time horizons can best be measured in nanoseconds as they scramble to extract capital from one completed project so they can finance the next, Bren works from a plan that could take 35 years to complete.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

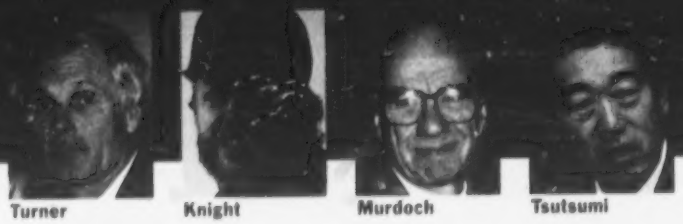
The BILLIONAIRES

F. Ferruzzi | Arturo Ferruzzi | A. Ferruzzi | Chang | Fisher

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
HUGO ERB, 74	Winterthur SWITZERLAND	**$1.9**	**Erb Group: car dealerships, coffee trading, investment banking, insurance, real estate.** No longer must Hugo Erb follow the drivers of battered cars to their destinations to persuade them to buy a new auto from one of his dealerships. Now he's grooming sons Rolf, 41, and Christian, 33, to do the chasing. And Christian, a discus thrower who competed at Barcelona but did not make it to the finals, is said to be an even more persistent salesman than his father.
FRANCA FERRUZZI, 54 **ARTURO FERRUZZI,** 52 **ALESSANDRA FERRUZZI,** 37	Ravenna ITALY	**$1.9**	**Serafino Ferruzzi: 44.8% of Ferruzzi Finanzaria, which has interests in agribusiness, energy, newspapers, and 44% of Montedison chemicals.** Last year the Ferruzzis unceremoniously kicked brother-in-law Raul Gardini out of the chairmanship of Ferruzzi Finanzaria. Perhaps in retaliation, Gardini announced that he and Jean Marc Vernes, the head of Ferruzzi's sugar company whose contract expires in December, had spent $311 million on food concerns that could compete directly with the Ferruzzis.
ANTON RUPERT, 78 **JOHANN RUPERT,** 42 and family	Stellenbosch SOUTH AFRICA London ENGLAND	**$1.9**	**20% of Rembrandt Group Ltd.: tobacco, liquor, mining; 9% of Cie Financiere Richemont SA: stakes in luxury consumer good companies, including Montblanc and Cartier.** Because he thought business was more practical, Afrikaner Anton Rupert graduated from college with a degree in applied chemistry instead of the medical degree he yearned for. Practical indeed: The Ruperts' shares in Richemont, owner of Cartier and Montblanc, rose 71% this year before slipping back to merely impressive levels.
ALAIN WERTHEIMER, 43	New York NEW YORK	**$1.9**	**70% of Chanel SA; real estate; art.** Alain Wertheimer's grandfather Pierre started selling Chanel No. 5 with the help of Coco Chanel in 1922. Today, Chairman Alain is still in the luxury racket, but he is not interested in special touches. When he heard that a flower arrangement had been ordered for a board meeting, he complained that there would be too much decoration to get work done.
Y. F. CHANG, 64	Taipei TAIWAN	**$1.8**	**70% of Evergreen Marine Corp.; 33% of Uniglory Marine Corp.; 40% of Evergreen Transport Corp.; 29.1% of EVA Airways.** How's this for supersonic speed? In 1980, Chang Yung-fa set up Taiwan's first privately owned international airline. Just two years later EVA is flying to Vienna and destinations within Asia, and Chang has ordered $4 billion in American planes.
MICHELE FERRERO, 67	Brussels BELGIUM	**$1.8**	**80% of Ferrero: Tic Tac, Nutella, Ferrero Rocher pralines.** In Europe, a Nutella-and-bread snack is as common for children as milk and cookies is in the U.S. Michele, who runs the company from Brussels, is so obsessed with duplicating the Nutella phenomenon that top Ferrero managers are compelled to attend weekly blind taste tests in which Michele's concoctions are presented with other sweets. As a result, children are now munching on Ferrero's Kinder candies, heavy on the milk and light on the chocolate.
DONALD FISHER, 64 **DORIS FISHER,** 60 and family	San Francisco CALIFORNIA	**$1.8**	**37% of the Gap.** Donald, who used to be a real estate developer, started the private-label line of casual clothes in 1974 because he wanted to be different. Today the Gap's "basic" statement about dressing has been copied throughout the retail industry and by such trendies as Giorgio Armani.
YOHACHIRO IWASAKI, 90 and family	Kagoshima JAPAN	**$1.8**	**Iwasaki Group: gas stations, buses, ferry boats, resorts, hotels, helicopters, real estate.** Known as the "Boss of Kagoshima," Iwasaki follows the basic philosophy of buy land now, figure out what to do with it later. Says he: "If I don't have land, I can't start a business. If I have land, I can start a business whenever I like." These days son Fukuzo, 67, and grandson Yoshitaro, 38, decide what to do with all those vacant lots.
C.F. KOO, 75 **JEFFREY L.S. KOO,** 58 and family	Taipei TAIWAN	**$1.8**	**35% of Taiwan Cement Corp.; 30% of Chinatrust Commercial Bank.** The Koos were one of the leading landowning families in central Taiwan when Chiang Kai-Shek seized the land in the 1950s and compensated the owners with stock in government-owned companies. The Koos got a stake in Taiwan Cement, and money has been pouring into their pockets ever since. Jeffrey, left fatherless as a boy and raised by his uncle C.F., has an MBA from New York University and is chairman of Chinatrust.
ROBERT KUOK, 68	HONG KONG	**$1.8**	**34% of TVB and TVE Holdings; rubber and sugar plantations; 18% of CITIC Pacific; hotels, real estate.** Malaysian by birth and Chinese by ancestry, Kuok learned his business basics in Pop's grocery store and traded commodities in World War II's feverish market. The former "King of Sugar" now focuses on real estate development on the mainland, trying to prove he's a good citizen in preparation for 1997.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES



Turner Knight Murdoch Tsutsumi

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
HUGO MANN, 70 **JOHANNES MANN,** 40	Karlsruhe GERMANY	**$1.8**	**Wertkauf-Mann Group: hypermarkets, furniture retailing; real estate.** The Mann fam ily's hypermarkets failed to excite Americans in the early Eighties, but shopping in virtua stadiums is popular among Germans. Son Johannes studied business at NYU, perfected h Yankee accent, and snagged an American wife before taking over from his father in 198
ROBERT E. "TED" TURNER, 53	Atlanta GEORGIA	**$1.8**	**57.7% of Turner Broadcasting System; real estate.** How much good fortune can on man handle? In December Ted married Jane Fonda and two weeks later he was chose as *Time*'s "Man of the Year" for CNN's Scud-to-Scud coverage of the Iraq war.
EUGENE T.C. WU, 47 **and family**	Taipei TAIWAN	**$1.8**	**47.4% of Shin Kong Spinning Corp.; 39% of Shin Kong Synthetic Fiber Corp.; 35 of Shin Kong Life insurance.** The Wus are the epitome of the Taiwanese success sto Patriarch Ho-Su Wu, who was uneducated, sold cloth during the Japanese occupatio and after WWII branched out into department stores, life and property insurance, a natural gas. His children now run the conglomerate he left behind when he died in 198
ARTEMUS DARIUS DAVIS, 86 **JAMES E. DAVIS,** 88 **and family**	Jacksonville FLORIDA	**$1.7**	**53% of American Heritage Life Investment Corp.; 40% of Winn-Dixie Stores.** A ne generation of Davis boys runs the company with A. Dano Davis, son of James E., CEO. As a result, the Sunbelt's biggest supermarket chain no longer wilts in the heat new competition, and boasts record earnings. Only two of the four founding brothers a still alive; M. Austin died in January.
LUKAS HOFFMANN, 68 **VERA OERI-HOFFMANN,** 66	Montricher SWITZERLAND Basel SWITZERLAND	**$1.7**	**20% of Hoffmann-La Roche.** Stepchildren of Paul Sacher, Luc and Vera inherited ha of mother Maja Hoffmann's stake in the pharmaceutical company that bears her nam Luc grooves on zoology and Vera on art. But now that Luc and Vera's husband ho positions in the company, the kids are dutifully getting interested in drugs.
PHILIP H. KNIGHT, 54	Hillsboro OREGON	**$1.7**	**35% of Nike.** Oregon's only billionaire launched the nation's most successful athle footwear company by peddling track shoes from the trunk of a car. Thirty years on, sma advertising and endorsements by super-athletes like Bo Jackson and Andre Agassi a doing the selling for him and catapulting Nike to a fifth straight year of record profits
HANS LIEBHERR, 77 **and family**	Bulle SWITZERLAND	**$1.7**	**100% of Liebherr International AG: machinery and heavy equipment, cooling sy tems, hotels.** German-born Hans Liebherr is looking to rebuild his homeland yet aga The first time was after WWII, when his transportable crane helped restore German infrastructure. Now he's planning to beat Caterpillar and Komatsu in repairing Easte Germany. But don't expect Liebherr to overextend his company to handle the new bu ness. His motto: "Never to reach beyond the length of your arm."
RUPERT MURDOCH, 61	Los Angeles CALIFORNIA	**$1.7**	**39% of News Corp.** Having pulled News Corp. from the jaws of financial defeat, Mu doch took up residence in Los Angeles and is now playing movie mogul as owner of 20 Century Fox. He has taken the place of Barry Diller, but he's got a lot to learn abo dramatic effect. He fired Fox exec Stephen Chao after Chao delivered a speech on co sorship while a male stripper proceeded to take it off—all off—in front of an appall Murdoch and some important guests.
JOHN RICHARD SIMPLOT, 83	Boise IDAHO	**$1.7**	**J.R. Simplot Co.: potatoes, cattle, fertilizer; 22% of Micron Technology.** The m who made his fortune in taters that he sold to McDonald's has now gone high tech. B will he enjoy it as much? He still eats a Mcbreakfast every morning, but he can't eat Micron stake.
JACKSON T. STEPHENS, 69 **BESS CHISUM STEPHENS,** 64 **and family**	Little Rock ARKANSAS	**$1.7**	**100% of Stephens Group; 37% of Worthen Bank Corp.; Stephens Production Co. gas exploration outfit; real estate; cash.** Along with his late brother, Witt, "Mr. Jac followed the advice of their cotton-farming pa, who once said, "Don't be ashamed your poverty, and don't be proud of it; just get rid of it as quickly as you convenien can." Bess is the widow of Witt, the family patriarch who died in December.
YOSHIAKI TSUTSUMI, 58	Tokyo JAPAN	**$1.7**	**40% of Kokudo, which owns 48.8% of land-rich Seibu Railway, 50% of Seibu Co struction, and the Prince Hotel chain.** Now that its focus has shifted from real estate resort development, Tsutsumi wants to update his company's image. So last March shortened its name to Kokudo. Since the 1996 Olympic winter games will be held near Nagano resort, Tsutsumi is lobbying the committee to use the resort's ski slopes. H also trying to corner the market on Olympic-related construction contracts.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHE

The BILLIONAIRES

L. Benetton | De Benedetti | Murdock | Nakajima | S. Bechtel Jr.

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
SHOJI UEHARA, 64 **and family**	Tokyo JAPAN	**$1.7**	**35.6% of Taisho Pharmaceutical Co.** For forty years Taisho Pharmaceutical has convinced Japanese workers that Lipovitan health drink will cure the side effects of living at the office. But this year sales were flat for the first time. Are employees sloughing off? Of course not, says Uehara's CEO son-in-law. "The low temperature from April to July was the main problem. People like to drink health drinks when it's warm."
LUCIANO BENETTON, 57 **GIULIANA BENETTON,** 55 **GILBERTO BENETTON,** 51 **CARLO BENETTON,** 48	Treviso ITALY	**$1.6**	**Edizione Holding: 81.3% of Benetton SpA, 70% Nordica ski boot manufacturer, 96% Prince racket maker; real estate.** The world's largest consumer of combed wool is looking to clothe the (moneyed) masses in China, Poland, Turkey, Egypt, and India. At home, CEO Luciano, now a senator, is peeved by Italy's debt. After attending a parliamentary session, he pointed out that a team of barbers cuts politicians' hair for free, costing the nation nearly $1 million annually.
CHENG YU-TUNG, 67	HONG KONG	**$1.6**	**40% of New World Development: hotels, real estate; shipping.** At 15, Cheng Yu-tung fled to Macau to escape the invading Japanese. There he became an apprentice in a gold shop, winning the hearts of both the owner and his marriageable daughter and expanding the business until he became known as Hong Kong's "King of Jewelry." Now he manages his glittering hotels across Asia and builds large-scale infrastructure projects in China.
CARLO DE BENEDETTI, 57	Milan ITALY	**$1.6**	**43% of Cofide: 44.3% of Olivetti.** It's no wonder that Carlo De Benedetti says his 65-day stint as deputy chairman of the Ambrosiano Bank in 1982 is the one job he regrets taking. In April De Benedetti was convicted of contributing to the bank's fraudulent bankruptcy and sentenced to six years and four months in prison. His crime: selling his shares back to the bank for $43 million and making a profit, thus further weakening the institution. He insists that all transactions were aboveboard, and no one is expecting to see De Benedetti in steel bracelets anytime soon. His appeal could take years.
JOSE ERMIRIO DE MORAES JR., 65 **ANTONIO ERMIRIO DE MORAES,** 64 **MARIA HELENA DE MORAES,** 61 **ERMIRIO PEREIRA DE MORAES,** 59	São Paulo BRAZIL	**$1.6**	**100% of Indústrias Votorantim SA: cement, mining, textiles, chemicals, agriculture, pulp and paper, orange juice.** Antônio Ermírio, cited in the press as "a symbol of elegance," revealed that his tailor's not to blame. Those wrinkled suits are English cashmere. Antônio's wife says his rumpled look is the result of 14-hour workdays. And he's not likely to spruce up soon, having just torpedoed a plan to turn Votorantim operations over to younger family members in their thirties and forties.
H.C. LEE **and family**	HONG KONG	**$1.6**	**50% of Hysan Development; control of Shanghai Commercial Bank; real estate.** Lee Hysan was reportedly a wholesale distributor of opium in Hong Kong in the 1920s when the drug was legal, and also the biggest landlord in Causeway Bay. He was gunned down by unknown assassins in 1928, and today his grandson H.C. controls a business that doesn't put him in the line of fire.
SERGIO MANTEGAZZA, 64 **GEO MANTEGAZZA,** 63	Figino SWITZERLAND	**$1.6**	**Globus Travel and Cosmos Tourama; Monarch Airlines; real estate.** The Mantegazza clan has ignored the limited Swiss travel industry and concentrated its efforts on the U.S. and Britain. As a result, says Sergio, "In Switzerland we are not known because we don't do much business here, and in the U.K. or U.S., where we do a lot of business, we are not known because we are Swiss."
DAVID H. MURDOCK, 69	Bel Air CALIFORNIA	**$1.6**	**100% of Murdock Development Co; 23% of Dole Food Co.; Flexi-Van Corp.; Stair & Co., antiques; real estate.** Murdock has resolved two pressing matters this year. He and Occidental Petroleum settled for $7 million a shareholder suit over Oxy's repurchase of Murdock's stake in the company in 1984 at 42% over the market price. He also ended his widowerhood in April by marrying Maria Ferrer, 36, Rosemary Clooney's daughter.
KENKICHI NAKAJIMA, 71 **and family**	Kiryu JAPAN	**$1.6**	**65.7% of Heiwa, the world's second-largest maker of pachinko machines; real estate.** As a child, Korean-born Nakajima had to work on the docks to earn enough money to go to school; now that he's an adult, he works at the business of giving money away. Heiwa slipped into the No. 2 spot this year and Nakajima suffered a paper loss of $4 billion, but chose to set up a $400 million educational foundation anyway.
STEPHEN BECHTEL JR., 67 **RILEY BECHTEL,** 40 **and family**	San Francisco CALIFORNIA	**$1.5**	**Bechtel Group Inc., engineering construction.** Giant Bechtel, whose projects have included the Hoover Dam and the Alaskan Oil pipeline, is run by one quiet family with rock-solid links to former Republican cabinet members. In the mid-Eighties the company started to crumble, but last year contracts to rebuild the Kuwaiti oil fields and to work on the Hong Kong airport reinvigorated Bechtel.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
CURTIS L. CARLSON, 78	Minneapolis MINNESOTA	**$1.5**	**100% of Carlson Holdings: travel agencies, Radisson and Colony Hotels, TGI Friday's, Country Kitchen restaurants, incentive marketing, investments, real estate.** It ought to be Carldaughter Holdings: The organizational chart for the businesses looks a lot like the family tree. Marilyn, the elder daughter, is vice chair of the holding company. Serving with her on the board are her mom, Arleen, Curtis's wife of 54 years, and her younger sister, Barbara.
JOHN T. DORRANCE III, 48 **BENNETT DORRANCE,** 46 **MARY ALICE DORRANCE MALONE,** 42	Devils Tower WYOMING Paradise Valley ARIZONA Coatesville PENNSYLVANIA	**$1.5**	**32% of Campbell Soup Co.** The family battles have quieted down, and Campbell is now safely in the hands of professional managers. To win back customers who defected to competitors' microwave products while no one was looking, Campbell has cooked up a thick $250 million advertising budget. The red-and-white can that Andy Warhol turned into an icon now boasts new labels with photographs of the ingredients like the presidential favorite, broccoli.
HENRY FOK YING-TUNG, 69	HONG KONG	**$1.5**	**40% of Sociedade de Turismo e Diversoes de Macau; real estate; hotels.** Fok, reportedly known as "the red capitalist," made his money by having a monopoly on Macau's casino business. He owes his chummy relationship with the Chinese communists to his long-time business dealings with senior government officials. Not a bad position to be in with 1997 just around the corner.
SIR JAMES GOLDSMITH, 59	MEXICO	**$1.5**	**67% of The Special Purpose Inc., which owns 48.2% of Newmont Mining.** Sir James says he retired for good, but those who remember his last "retirement" know better. He bailed out of the stock market before the October 1987 crash, announced he would lie in the sun for all eternity, and then launched two takeover bids. But this time he seems to mean it when he talks about quitting. He's roaming around the globe directing the Goldsmith Foundation, which concerns itself with environmental issues.
BASIL P. GOULANDRIS and family	Gstaad SWITZERLAND	**$1.5**	**B.P. Goulandris Group, shipping; real estate; cash.** While his competitors trade in their ships as soon as market conditions signal profits, Goulandris commits to his vessels until the end of their working life. After shrinking his fleet in 1987, he invested in real estate, but most of his cash is still sitting in banks waiting for the ship construction market to bottom out so he can buy low.
WALTER HAFNER, 82	Kusnacht SWITZERLAND	**$1.5**	**Careal holding: 100% of Amag car importers; 21% of Computer Associates International.** His horses are giving Häfner more pleasure and possibly more profits than his stagnating car-importing business. Twilight Agenda, a stallion, has earned $1.2 million in the past year, and Brief Truce, another guy, took home the purple ribbon at Royal Ascot in England last June.
ALFRED HENRY HEINEKEN, 68	Noordjwik NETHERLANDS	**$1.5**	**25% of Heineken breweries.** If you like his beer, Freddy Heineken believes you'll love his book. In June Heineken published *Eurotopia*, which outlines his vision for a global federation of 75 states—Scotland is on its own, and Monaco and Liechtenstein can join but they can't vote.
ESTHER KOPLOWITZ, 42 **ALICIA KOPLOWITZ,** 40	Madrid SPAIN	**$1.5**	**70% of Fomentas de Construcciones y Contratas, which owns 42% of Portland Valderrivas, a cement company; securities.** Combining their two construction companies to compete better in the New Europe was a good strategic move, but alas, the Koplowitz sisters still can't get a break. The recession has already whacked $1 billion off their newly merged assets. Will Esther and Alicia find richer customers in the European market?
SALVATORE LIGRESTI, 60	Milan ITALY	**$1.5**	**77% of Premafin: includes ceramics, hotels, a TV station, high-speed train systems; real estate.** More accustomed to summering at one of his luxury hotels, Ligresti cooled his heels this year in a 9-by-12-foot prison cell in Milan. He went to the pokey after charges surfaced in a scandal over alleged payoffs for rigged public works contracts. So far the Sicilian-born construction baron has confessed to bribing a Milanese businessman to nail down a contract for the Milan subway system and awaits trial.
GEORGE STAVROS LIVANOS, 64	Lausanne SWITZERLAND	**$1.5**	**Sun Enterprises: shipping; banking.** George S. is the descendant of one of the original "Golden Greeks," a drachma-rich clan that included his father Stavros, Aristotle Onassis, and Stavros Niarchos. These three families were tied together by more than freighters: George's sisters Christina and Eugenia were both married to Niarchos, and Tina did a stretch as Mrs. O before Jackie K. got there. George's life has been far less glamorous. He has strengthened his shipping concern and diversified into tourism and banking.

The BILLIONAIRES

Roussel | Aga Khan IV | Barilla | Branson | Hassan II

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
ROBERT MIMRAN, 49 **JEAN-CLAUDE MIMRAN,** 47 **PATRICK MIMRAN,** 36	Geneva SWITZERLAND	**$1.5**	**Sugar and flour production, animal feed, plastic extrusion, banking, real estate.** Older brothers Jean-Claude and Robert are the responsible Mimrans, the hardworking offspring of an Algerian whose West African sugar mills fattened up on the world's sweet tooth. Patrick prefers to stay out of the family business, pursuing music and painting, and ducking the press.
ATHINA ROUSSEL, 7	Lussy-sur-Morges SWITZERLAND	**$1.5**	**50% of Onassis Group: shipping, cash.** The world's littlest billionaire is the only living heir to Aristotle Onassis's shipping fortune. Onassis's son died in an air crash and his daughter, Athina's mother, had a fatal heart attack. In her late teens, Athina will take over her grandfather's empire—and control of her money. But now she lives with her father, French pharmaceuticals heir Thierry Roussel, who was divorced from her unhappy mother in 1987. Roussel administers Athina's inheritance.
JOSEF SCHORGHUBER, 72	Munich GERMANY	**$1.5**	**Munich real estate; 100% of Paulaner and Hacker-Pschorr breweries; Dessau breweries; construction; aircraft leasing; travel agencies; Coca-Cola franchises.** The sheep pasture Schorghuber bought with his earnings as a carpenter in 1954 became the first of thousands of office and housing developments scattered across Munich. Now he is trying to satisfy the thirst of former East Germans for beer.
THE AGA KHAN IV, 56	Chantilly FRANCE	**$1.4**	**Luxury hotels; 750 thoroughbred racehorses; real estate; art.** The Aga Khan, known as Karim al-Hussain Shah when he was a student at Harvard, is hailed by 15 million Ismaili Moslems as a direct descendant of the prophet Mohammed. He's not one to take advantage of them, however: He has thrown himself into Third World development projects on their behalf.
CECILIO DO REGO ALMEIDA, 62 **HENRIQUE ALMEIDA,** 56	Curitiba BRAZIL	**$1.4**	**C.R. Almeida Group: 77% of C.R. Almeida S.A. Engenharia e Construtora; chemicals; explosives.** C.R., who has worked since he was 7, started his construction company in his father's garage, where one drawer was for the technical department, another for accounting. The company, which benefited from ties to Brazil's military regime, expanded along with the nation's building boom. Younger brother Henrique, who owns 26% of the business, is a senator from Amapá.
JERONIMO MANUEL ARANGO ARIAS JR., 66 **PLACIDO ARANGO,** 61 **MANUEL ARANGO,** 55	Mexico City MEXICO Madrid SPAIN Mexico City MEXICO	**$1.4**	**24% of Cifra, Mexico's largest retailer; restaurants; real estate.** By imitating the low-priced retail strategy of the two Marts north of the border—Wal- and K—Cifra has grown exponentially. It has modernized its stores without taking on debt and added shiny conveniences like automated teller machines. Jeronimo is most involved with the business, Manuel runs with the beautiful people, and Placido stays on the sidelines in Spain.
PIETRO BARILLA, 79	Parma ITALY	**$1.4**	**Barilla: pasta and baked goods.** Barilla says he's proud to be a *spaghettaro*—spaghetti maker—and Italians have rewarded his passion with a 35% market share. Pietro has recently engaged in some of his favorite American marketing techniques: Spokeswoman Steffi Graf helped boost German market share 30%, and Paul Newman is luring more Italian pasta lovers.
RICHARD BRANSON, 42	London ENGLAND	**$1.4**	**Virgin Group Cos.: clubs, film distribution, retailing, airlines.** Branson has kept busy this year. Having added Orlando, Florida, to his Virgin Atlantic airline routes, he bought two 1944 DC-3 U.S. military planes which, operated by crews in World War II–era gear, will fly Florida vacationers on sightseeing tours. Name: Vintage Airlines. He has also announced plans to offer a "Virgin Flyer" rail service between London and Edinburgh, and in March he sold Virgin Music to Thorn EMI for a slick $980 million.
KING HASSAN II, 63	Rabat MOROCCO	**$1.4**	**Omnium Nord Africain: mining, manufacturing, real estate; hotels.** Also considered by his subjects to be a descendant of the prophet Mohammed, King Hassan has what the Arabs call *baraka*: religiously blessed good luck and flair. Having survived two attempted coups, the king has led his country to greater prosperity today than either of its neighbors, Algeria and Tunisia enjoys.
RAY HUNT, 49 **and family**	Dallas TEXAS	**$1.4**	**100% of Hunt Oil; real estate; agribusiness.** H. L. Hunt's son from his second family, Ray was always good at making money. No asset is left unexploited if it could generate cash. For example, Hunt is cooperating with the Mexican government and the city of McAllen, Texas, the home of his Sharyland Plantation, to build an international bridge across the Rio Grande. Thus, what now is a vegetable and cotton farm could be transformed into valuable highway-side real estate.

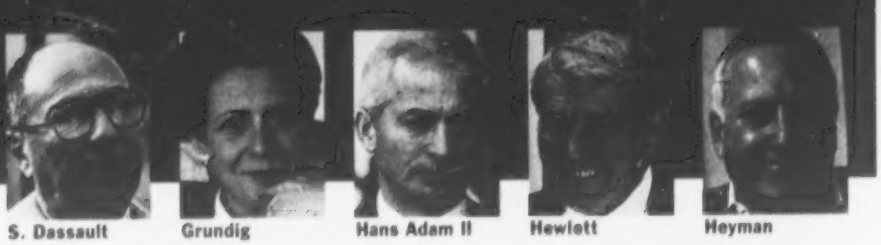
NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
KLAUS JACOBS, 56	Küsnacht SWITZERLAND	**$1.4**	**100% of E.J. Brach; Adia SA; Allgemeine Finanzgesellschaft, an investment company; cash.** When Jacobs sold his chocolate and coffee company, Jacobs Suchard, to Philip Morris in 1990, the cash burned a hole in his pocket. Now it's simply turning to vapor. He bought Adia SA, the world's second-largest temporary employment agency, and promptly lost 77% of his investment.
AHMED JUFFALI, 67 **and family**	Riyadh SAUDI ARABIA	**$1.4**	**E.A. Juffali & Brothers: Saudi industrial companies: automotive, construction, and others.** Having started in 1960 with the Daimler-Benz agency for Saudi Arabia, Juffali's company is today considered the best-managed and most modern in the country. One reason is Ahmed Juffali himself, a quiet, cautious boss who chooses employees carefully and then delegates key business chores to them.
KIRK KERKORIAN, 75	Las Vegas NEVADA	**$1.4**	**73.5% of MGM Grand Inc., operator of hotel-casinos; 9.6% of Chrysler Corp.; cash.** In October, MGM broke ground for what columnists are calling Oz, a Las Vegas "family amusement park." The resort ain't Kansas, but it's got at least $300 million of Kirk Kerkorian's own bucks in it. To give him something to drive on that yellow-brick road, Kerkorian bought six million shares of stock in Chrysler's latest public offering.
ANDRONICO LUKSIC ABAROA, 70 **ANDRONICO LUKSIC CRAIG,** 38 **GUILLERMO LUKSIC CRAIG,** 36 **JEAN-PAUL LUKSIC FONBONA,** 27 **and family**	Santiago CHILE	**$1.4**	**Stakes in Banco O'Higgins; Banco de Santiago; Compania Cervercerias Unidas, beer; MADCO, copper mining.** The Luksic family, of Croatian ancestry, think any business is worth a try: hotels, breweries, railroads, banks, telephones, mining, smelting. Some corporate leaders in Chile feared a return to high inflation once Pinochet left office, but the Luksics, no fools, are said to have praised the current government.
GIAMPIERO PESENTI, 61	Bergamo ITALY	**$1.4**	**44% of Italomobiliare; 51% of Italcementi; 45% of Ciments Français; bonds.** The butt of a lot of dinner jokes for keeping $1 billion of cash in government bonds for years, Pesenti is laughing all the way to the bank. In April he walked away with a 45% stake in No. 3 cement producer Ciments, catapulting Pesenti's operation from fifth to first rank in the world.
LEONARD NORMAN STERN, 54	New York NEW YORK	**$1.4**	**100% of the Hartz Group Inc.; real estate; publishing.** Stern, living well off the flea collars and fish food of his pet supply company, is using his seed money to generate homes for the homeless. This activity should earn some goodwill for the brass-knuckled meanie who also turned New Jersey swampland into prime office space.
KATSUMI TADA, 47 **and family**	Tokyo JAPAN	**$1.4**	**45.6% of Daito Trust Construction.** In true Horatio Alger fashion, Katsumi Tada started Daito Trust in 1974 with $7,301. Now he's benefiting from a new law requiring farmland on the urban periphery to be taxed at residential rates, which will lead to the conversion of hundreds of farms into homes and apartments.
HIROSHI YAMAUCHI, 64	Kyoto JAPAN	**$1.4**	**11% of Nintendo.** For most billionaires, buying a sports team is the realization of a lifelong dream, but Yamauchi considers it philanthropy. About his part in the $125 million purchase of the Seattle Mariners last June, he says, "That's my contribution to society this year. I'm not really interested in baseball."
PHILIP ANSCHUTZ, 52	Denver COLORADO	**$1.3**	**100% of Anschutz Corp.; 71% of Southern Pacific Transportation Co. and Denver & Rio Grande Western Railroad; oil; real estate.** Anschutz made his fortune wildcatting in the Rockies, so he's hardly risk averse. Which may account for why he's hanging on to Southern Pacific even after a tanker car derailed and spilled thousands of gallons of toxic weedkiller into the Sacramento River. The trout haven't fully recovered, and neither has the California legislature, which has enacted more stringent environmental regulations.
EMILIO BOTIN SR., 89 **EMILIO BOTIN JR.,** 57 **and family**	Madrid SPAIN	**$1.3**	**14% of Banco De Santander SA; 50% of Banco Intercontinental Español; securities.** The Botin family is getting ready for the new European market. Bank Santander, now headed by Emilio Jr., has acquired a 10% stake in the Royal Bank of Scotland, with which it developed an interbanking on-line computer system that surpasses those of its future international competitors.
SEBASTIÃO FERRAZ DE CAMARGO PENTEADO, 83	São Paulo BRAZIL	**$1.3**	**93% of Camargo Corrêa Group: construction, engineering, banking.** Known for holding the reins of the company he founded, Camargo recently turned over presidency of the firm's administrative council to his son-in-law, Carlos Pires Oliveira Dias. Is the transfer of control for real? Two years ago Camargo tapped another man for this position, only to change his mind.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

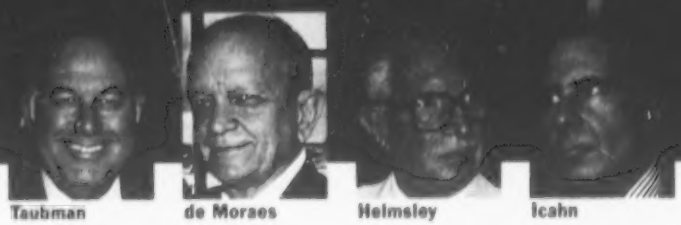


S. Dassault | Grundig | Hans Adam II | Hewlett | Heyman

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
SERGE DASSAULT, 67 **CLAUDE DASSAULT,** 60	Paris FRANCE	**$1.3**	**54.5% of Dassault Aviation; 59.7% of Serge Dassault Electronics; Saint-Emilion vineyards; real estate.** Mme. Madeleine Dassault died in July at the age of 92, leaving behind not only her late husband's industrial group but also her key political connections. Without these, brothers Serge and Claude may find the French government using its majority voting rights to control Dassault Aviation, which it had previously left alone.
SHAUL EISENBERG, 71	Tel Aviv ISRAEL	**$1.3**	**73% of Israel Corp.: shipping, oil refineries, electronics, hotels, real estate; stakes in 50 companies in 20 countries outside Israel.** Born in Munich to a Hasidic family, Eisenberg left Germany in 1938 and eventually fetched up in Japan. By the age of 20 he already owned three Japanese factories and eventually exported Japanese TVs and radios to the U.S. Now a resident of Israel, Eisenberg says he always worked to have a home so his six children "wouldn't have to be wandering Jews like me."
PRINCESS MELINDA ESTERHAZY OTTRUBAY, 71	Zurich SWITZERLAND	**$1.3**	**Real estate, including 125,000 acres of Austrian woodlands; securities.** Danielle Steele should be this lady's biographer. Only a romance novelist could do justice to a ballerina in the Budapest Opera, who meets a prince in a bomb shelter at the end of WWII. He is then jailed by the communists for treason, but escapes and . . . well, you get the picture. The prince died in 1989, leaving every schilling to the princess.
CHARLES FEENEY, 61	London ENGLAND	**$1.3**	**40% of DFS (formerly Duty Free Shoppers); 100% of General Atlantic Corp., a Bermuda-based holding company.** New Jersey-born Feeney devoted his early career to getting inside the mind of his target customer, the free-spending Japanese tourist. Free-spending himself, Feeney is not. He still flies economy class and was once seen holding his trousers up with safety pins.
ERNEST GALLO, 83 **JULIO GALLO,** 82	Modesto CALIFORNIA	**$1.3**	**100% of E. & J. Gallo Winery.** Ernest and Julio Gallo are tired of having a last name that's sometimes synonymous with "cheap wine," and Americans are finally catching on. This year E&J Gallo's entries were responsible for 40% of the growth in varietal wines. But their once-hip Bartles & Jaymes wine cooler business is down to the dregs as the taste for vino as soda pop chills.
CHANTAL GRUNDIG, 43 **and family**	Baden-Baden GERMANY	**$1.3**	**Inheritance from the Grundig electronics fortune; luxury hotels.** The widow of Max Grundig, 40 years her senior, seems to have lost her taste for much older men, although not for married ones. She is rumored to be wedding a doctor just 12 years older than she. Like Max, he too had a wife whom Chantal has displaced.
PRINCE HANS ADAM II, 47	Vaduz LIECHTENSTEIN	**$1.3**	**97.7% of the Bank of Liechtenstein; art; real estate.** Prince Hans Adam would like an apology. After WWII, the communist government of Czechoslovakia seized estates belonging to his family. Now that Eastern Europe is opening up, Hans Adam will settle for a gracious admission of Czech wrongdoing in lieu of $15 billion to $25 billion in compensation.
WILLIAM R. HEWLETT, 79	Portola Valley CALIFORNIA	**$1.3**	**8% of Hewlett-Packard.** Shirt-sleeved engineer Hewlett co-founded H-P with his Stanford classmate Packard. In 1939 they set up shop in a backyard garage and parlayed $538 into a multibillion-dollar electronics empire. The engineer's engineer, Hewlett is no longer active in management, but he made employees comfortable by always insisting on using first names.
SAMUEL J. HEYMAN, 53	New York NEW YORK	**$1.3**	**90% of GAF: chemicals, building materials, and broadcasting; real estate.** His soft-spoken manner conceals the ex-federal prosecutor's cunning. As a dissident shareholder, Heyman seized control of GAF's chemical hodgepodge in 1983 and reportedly made $250 million from his failed bid for Union Carbide. His crown jewel International Specialty Products went public in June 1991 to help pay off GAF's Eighties-style debt.
MARGARET HUNT HILL, 76 **HAROLDSON HUNT,** 74 **CAROLINE ROSE HUNT,** 69	Dallas TEXAS	**$1.3**	**Trusts; Rosewood Corp.: real estate, oil and gas, securities.** These three offspring of oilman H. L. Hunt's first family have their money safely sheltered in trusts. Meanwhile, their black sheep brothers Bunker, Herbert, and Lamar may be eyeing the poorhouse, relatively speaking, after years of lawsuits that have leeched their fortunes.
KANICHIRO ISHIBASHI, 72 **and family**	Tokyo JAPAN	**$1.3**	**18.9% of Bridgestone, rubber products.** Ishibashi's father, Shojiro, was so entranced with the West that he taught his children to eat with silverware and named his company Bridgestone, which was the reverse of the English translation of his name, Stonebridge. After its expensive acquisition of Firestone in 1988, the company started having a hard time. It hasn't helped that Americans seem to let their tires go bald during the recession.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

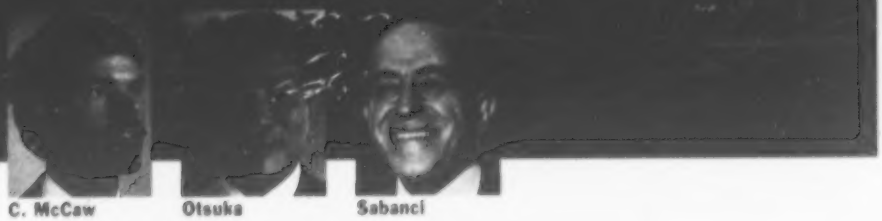


Taubman de Moraes Helmsley Icahn

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
KARL KAHANE, 72	Vienna AUSTRIA	**$1.3**	**100% of Montana Aktiengesellschaft: minerals, building supplies, chemicals.** Kahane, an Austrian Jew, learned his dealmaking in a hard school. His family's holding company, Montana, was the Nazis' first target in Austria for "Aryanization." The Germans paid Karl's father, Emil, 1.2 million Reichsmarks for Montana and then demanded it back in taxes. Left penniless—but alive—the family emigrated to Palestine but returned to Austria after the war to reclaim their property.
WILLI LEIBBRAND, 59	Bad Homburg GERMANY	**$1.3**	**Real estate: vineyards; cash.** Leibbrand had just about had it with the supermarket biz in 1991 when he cashed out of REWE Cologne and bought real estate. Best known is his 18th-century palace Hotel Schloss Reinhartshausen, where guests sleep on antique beds in period rooms and gaze over 400 acres of vineyards.
MANFRED SWAROVSKI, 77 **and family**	Wattens AUSTRIA	**$1.3**	**100% of Swarovski International Holding; 50% of Zale Corp.** For Manfred Swarovski, rhinestones are a boy's best friend. The company cuts 60 million rhinestones a day and doesn't know the meaning of luxury backlash. Unfortunately, the Texas-based Zale, which sells a girl's best friend, hasn't been so lucky; it filed for Chapter 11 in January.
A. ALFRED TAUBMAN, 68	Bloomfield Hills MICHIGAN	**$1.3**	**33% of Sotheby's Holdings; Woodward & Lothrop; John Wanamaker; A&W Restaurants; real estate, including 20 enclosed malls; art.** Alfred Taubman and Madonna have three things in common: They're both rich, they both cavort with the beautiful people, and they both dropped out of the University of Michigan. Otherwise, Taubman is more like Madonna's ex Sean Penn—publicity is the least favorite aspect of his mall-king status.
RONNIE CHAN CHI CHUNG, 42 **and family**	HONG KONG	**$1.2**	**49% of Hang Lung Development: 52% of Amoy Properties, 58% of Grand Hotels; 7.6% of Wing Lung Bank; real estate.** Founding father T. H. Chan may have been raised in a wealthy family, but he was known for his frugality. He installed his family in a windowless apartment in the basement of one of his buildings, where they live to this day. When Chan died in 1986, for unknown reasons he appointed a longtime confidant as trustee of his estate instead of his son Ronnie or any other family member.
OLACYR FRANCISCO DE MORAES, 61	São Paulo BRAZIL	**$1.2**	**99% of the Itamarati Group: agriculture; Constran SA, a construction company; mining; warehousing; banking; real estate.** The son of a sewing machine salesman, Olacyr expanded a small transportation subcontracting business into mining, banking, and agricultural development in the Amazon and central Brazil. His newest project is a railway to link developed south-central Brazil with the north and agricultural west. The "Soybean King" is a hard-driving entrepreneur who once went 20 years without taking a vacation.
ANTON CASPAR RUDOLPH DREESMAN, 69	Laren NETHERLANDS	**$1.2**	**Vendex International: clothing and department stores.** Vendex's founder suffered a stroke three years ago, and his health has steadily declined since. He is said to have withdrawn completely from Vendex. At the time of his stroke, Anton did hand-pick a chairman but then fired him, saying he had seen a vision of the man selling the company after Dreesman's death. The Vendex board subsequently took matters into their own hands and named a chairman.
HARRY B. HELMSLEY, 82	New York NEW YORK	**$1.2**	**New York commercial and residential real estate.** He's just wild about—claims he cannot live without—prisoner No. 15113-054, a.k.a. second wife Leona. She's doing four years at the Federal Correctional Institution in Danbury, Connecticut, for income tax evasion and mail fraud. The towels aren't very thick, but it's the only prison where the Queen stands guard.
KHALID BIN IBRAHIM AL IBRAHIM ABDUL-AZIZ BIN IBRAHIM AL IBRAHIM	Riyadh SAUDI ARABIA	**$1.2**	**Securities; real estate.** Khalid and Abdul-Aziz are the middle-aged brothers of King Fahd's best-loved wife, Mouna, and handle investments for Mouna and Fahd's adored son Prince Abdul-Aziz. Their royal connections—which they exploited zealously—appear to have gotten the brothers a lot of favors from the king but have made them among the most controversial businessmen in Saudi Arabia.
CARL C. ICAHN, 56	Bedford NEW YORK	**$1.2**	**100% of ACF Industries, railcar producers/lessors; 90% of Trans World Airlines; American Real Estate Partners; junk bonds.** TWA is continuing to give Icahn a bumpy ride. He made a deal that will allow him to trade his 90% of TWA's shrunken equity plus $35 million for 45% of the company's bonds. But the survival record for ailing airlines that enter Chapter 11 doesn't bode well for Icahn's wallet or his ego.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES



C. McCaw Otsuka Sabanci

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
BRUCE R. McCAW, 46 **CRAIG O. McCAW,** 43 **JOHN E. McCAW JR.,** 41 **KEITH W. McCAW,** 38	Kirkland WASHINGTON	**$1.2**	**30% of McCaw Cellular Communications.** The biggest player in cellular phone service, McCaw recently announced an agreement to form a joint venture in San Francisco with No. 3 provider Pactel. On the local level, when Seattle's baseball team threatened desertion, John Jr. joined with executives from Nintendo and Microsoft to keep the Mariners at home.
BARON MANFRED VON OPPENHEIM, 68 **BARON ALFRED VON OPPENHEIM,** 58 **and family**	Cologne GERMANY	**$1.2**	**Sal. Oppenheim Jr. & Cie: banking, insurance, and securities.** For bankers who have built their reputation on personalized service, Alfred and Manfred von Oppenheim certainly don't appear much in public. But Germany's largest private bank, founded in 1790, is making its presence known in eastern Germany and preparing for new competition from Barclays, which bought Merck Finck & Co. last year.
MASAHITO OTSUKA, 75 **and family**	Tokushima JAPAN	**$1.2**	**Otsuka Group: 87.6% of Otsuka Pharmaceutical, real estate.** As Japanese businessmen go, Otsuka is a bit unorthodox. His supposed management philosophy: "Sake, women, and management are one and form a harmonious whole." Otsuka likes to share his thoughts on other topics as well. He rose at 4 A.M. every day for two years to write his memoirs before going to the office. The resulting work, *Proven Experiences of My Life*, is 2,072 pages long and costs $800.
LORE PIEPER **ROLAND PIEPER,** 48 **BEATRICE PIEPER,** 47 **MICHAEL PIEPER,** 46	Unterwalden SWITZERLAND Dietikon SWITZERLAND Zürich SWITZERLAND Unterwalden SWITZERLAND	**$1.2**	**Franke Group: kitchen and medical equipment; Reppisch Werke: wood and furniture; 50% of Gesellschaft fur Spinnerei & Weberei; real estate.** Roland Pieper says whenever his father earned money, he bought land. When Dad died in 1990, there was more than enough to split among his three children: Roland received the real estate and Reppisch Werke, Beatrice got the securities, and Michael inherited Franke Group. Mother Lore didn't get much from the old man, but she didn't need much, either. Her own fortune includes her family's spinning and weaving mill which owns real estate valued at $200 million.
SAKIP SABANCI, 59 **and family**	Istanbul TURKEY	**$1.2**	**Sabanci Holding: banking, insurance, textiles, rubber, and hotels.** Sabanci's workaholism is legend, so all of Turkey was stupefied by the conglomerateur's sudden declaration that he would devote the remainder of his life to doing something for his homeland. Sabanci then impulsively embarked on a world tour to promote the interests of Turkey. There's an old Turkish saying: "A shroud has no pocket."
JAMES L. WALTON, 70	Bentonville ARKANSAS	**$1.2**	**2% of Wal-Mart.** The late Sam's No. 1 partner, brother "Bud," is a senior vice president of Wal-Mart. He helped build what became the huge retailing chain at the end of World War II, and like all good Wal-Mart employees bought shares.
PETER WOO KWONG-CHING, 46 **and family**	HONG KONG	**$1.2**	**58% of World International: 44% of Wharf Holdings Ltd.** Sir Yue-Kong Pao died last September, leaving the flagship of his empire, World International, to his second son-in-law, Woo, and Woo's wife, Bessie. But Bessie has no say in the business. Woo spoke the same Shanghai dialect as Pao and was his favorite. Without a male heir, Chinese-born Pao found unthinkable the idea of flouting tradition and turning control of his business over to his four daughters.
HARUHIKO YOSHIMOTO, 68	Hyogo JAPAN	**$1.2**	**100% of Yoshimoto Real Estate & Building.** His wealth certainly doesn't come from his real estate company's sales, which amounted to just $15 million last year. Instead, Yoshimoto owns prime land in Osaka, much of which he inherited from the grandfather who raised him.
MARCELO ZAMBRANO, 68 **and family**	Mexico City MEXICO	**$1.2**	**26.8% of Cementos Mexicanos SA, North America's largest cement producer.** The chairman of the world's fourth-largest cement producer is trying to control an even greater share of the market, buying up competitors to the tune of over $2 billion. In July the General Agreement on Tariffs and Trade ruled that the U.S. government should return $30 million in duties Zambrano paid to sell cement in the U.S.
MERCEDES ZOBEL DE AYALA McMICKING, 84 **ENRIQUE ZOBEL DE AYALA,** 65 **JAIME ZOBEL DE AYALA,** 58	Manila PHILIPPINES	**$1.2**	**Mermac Inc.: Ayala Corp., a property developer that owns Ayala Land, the Bank of the Philippine Islands, Ayala and Fgu. insurance companies, resort hotels, cable, and radio.** Ayala and McMicking forebears founded Ayala Corp. in 1834. In more recent family history, matriarch Mercedes inherited the family's umbrella company Mermac—named after her—after her husband Joseph died in 1990. Jaime, the childless couple's nephew, now runs Ayala.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

Deyhle Geffen R. Milliken H. Oppenheimer

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
FABIO BERTARELLI, 68 **and family**	Coinsins SWITZERLAND	**$1.1**	**87.7% of Ares Serono: pharmaceuticals and diagnostics.** Don't expect Bertarelli to retire to his horse ranch in Arizona anytime soon. His Ares Serono is focusing on the market niches in the drug market. Along with infertility drugs, the company won exclusive rights to Interleukin 6, a genetically engineered molecule that fights the side effects of cancer treatments.
ROBERT BOSCH JR., 64 **and family**	Stuttgart GERMANY	**$1.1**	**Robert Bosch Co.: auto components, consumer electronics, medical equipment.** Robert Bosch Sr. developed the spark plug, but since 1970 Bosch Jr. has devoted himself to the study and practice of psychoanalysis and with sister Eva Madelung presides over the Robert Bosch Foundation. Now 90% of the siblings' Bosch shares are committed to the foundation, which is devoted to enhancing international understanding.
ROLF DEYHLE, 53	Stuttgart GERMANY	**$1.1**	**Real estate, including musical and movie theatres; art.** Deyhle made his money in residential and commercial real estate, but his true love is show business. He helped transform Hamburg into Europe's leading center for musicals, and he is eyeing Hollywood. He and a partner have hooked up with Warner Bros., which produced the film *JFK*, in a 20-picture, $900 million deal.
MICHEL FRIBOURG, 79 **and family**	New York NEW YORK	**$1.1**	**100% of Continental Grain; 8.6% of the Overseas Ship Holding Co.** The fifth-generation heir to the 179-year-old Belgian agribusiness firm began his reign as CEO in 1944, only to be replaced by an outsider 44 years later when the grain industry was doing poorly. Now the industry is improving, and Continental is the fourth-largest private company in the U.S.
DAVID GEFFEN, 49	Beverly Hills CALIFORNIA	**$1.1**	**Cash from the sale of Geffen Records to MCA; real estate.** New billionaire David Geffen's career literally started in the mail room at the William Morris talent agency. In 1980 he launched Geffen Records, and discoveries like Guns N' Roses enticed MCA to swap stock for the company in 1990. When Matsushita acquired MCA just eight months later, Geffin cleared $710 million. He used a little of it to to help out his pal, designer Calvin Klein, and purchased all the outstanding junk debt of Klein's faltering company. He then waived repayment of the principal for several years. Now Geffen is flipping through his famous overstuffed Rolodex to plot his next move. His office has no desk and he is never more than inches away from one of his many high-tech telephones.
MEHMET EMIN KARAMEHMET, 47	Istanbul TURKEY	**$1.1**	**51% of Çukurova Group: including textiles, machinery, chemicals, printing, and mining.** Karamehmet is said to be so dauntless that the only time he ever experienced fear was when he was assigned to a paratroop unit during his service in the military. It was probably the only time he ever experienced excitement too: He habitually answers what's-new queries with a weary "Nothing."
JACK N. MANDEL, 79 **JOSEPH C. MANDEL,** 77 **MORTON L. MANDEL,** 59 **and family**	Shaker Heights OHIO Lyndhurst OHIO Shaker Heights OHIO	**$1.1**	**57.8% of Premier Industrial Corp., the largest broad-line electronic components distributor in the U.S.** The Mandel brothers got started in 1940 when they bought their uncle's auto parts business for $900. They quickly learned that the only way to make money was to treat their customers like royalty. But CEO Morton doesn't expect the same fealty from employees—he has a windowless office, no executive parking space, and asks subordinates to call him Mort.
ROGER MILLIKEN, 76 **GERRISH MILLIKEN,** 75	Spartanburg SOUTH CAROLINA Greenwich CONNECTICUT	**$1.1**	**34% of Milliken & Co.; 31% of Mercantile Stores Co.; real estate.** Having your name on the door of the largest privately owned textile firm in the U.S. tends to turn you into a foe of free trade. Roger (a backer of Barry Goldwater and Strom Thurmond) once got the *National Review*'s William Buckley to hand deliver his protectionist plea to President Reagan.
HARRY F. OPPENHEIMER, 84 **NICHOLAS F. OPPENHEIMER,** 47 **and family**	Johannesburg SOUTH AFRICA	**$1.1**	**8.3% of Anglo American Corp., gold mining; De Beers Consolidated Diamond Mines; 7% of Minorco, international trading; cash; real estate.** Harry O is more interested in collecting first editions of Byron and Keats than gemstones and gold, but fortunately for the Oppenheimers, customers don't feel the same. Son Nicholas is currently based in London, where he chairs De Beers's central selling organization.
DONALD W. REYNOLDS, 85	Las Vegas NEVADA	**$1.1**	**Donrey Media Group; real estate.** The last sole owner of a major newspaper chain, Reynolds cares less about the power of print than the laws of economics. His low-debt media group effortlessly withstands the poor advertising climate even though the bulk of its assets are dailies—the hardest hit of all print media.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

Rothschild

G. Andrade

Eczacibaşi

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
BARON EDMOND DE ROTHSCHILD, 66 **and family**	Pregny SWITZERLAND	**$1.1**	**Cie Financière Edmond de Rothschild; stakes in Hachette and other French companies; real estate.** Baron Ed estimates his personal fortune to be around $50 million. This figure might be accurate if he were referring only to the nest egg that his ancestor Mayer Amschel had in 1780. Besides, Edmond sure has some billionaire's hobbies: collecting Old Master paintings, tending multiple wineries, and producing Brie cheese.
WOLFGANG SCHUPPLI, 70	Wiesbaden GERMANY	**$1.1**	**100% of Deurag Legal Expenses Insurance; 40% of WMF AG, a kitchen-equipment maker; 26.6% of Pfaff AG Kaiserslautern, sewing machines; Munich real estate; mortgage banks.** Rather than rack up billable hours, Schuppli used his legal training to found Deurag and subsequently invested the profits in real estate, banks, cutlery, and sewing machines. Unfortunately, the recession cut so deep into sewing machine sales that he's had to put off his retirement and lay off 500 Pfaff workers. Another 800 or so will be added to the list before the end of the year.
SHEIKH ABDULAZIZ ABDULLAH AL SULAIMAN, 58	Jeddah SAUDI ARABIA	**$1.1**	**Rolaco Services: construction; real estate; cement companies; investment banking; shipping.** It always pays to have an influential father. Sulaiman's dad ran the state treasury for then-King Abdul-Aziz Al Saud, who granted him a valuable cement concession and miles of real estate. Son Abdulaziz ignores government affairs in favor of hot businesses like his Nissan importing company.
ROBERTO ANDRADE, 77 **GABRIEL ANDRADE,** 66	Belo Horizonte BRAZIL	**$1.0**	**67% of Andrade Gutierrez: heavy construction, mining, agriculture.** The Andrade brothers' firm has begun to diversify from local projects into such international efforts as helping to build a hydroelectric dam in Iran. But not sure that it's ready for the 21st century yet, the company recently hired a restructuring consultant—megatrendy futurist John Naisbitt.
HEINZ HEINRICH BAUER, 52	Hamburg GERMANY	**$1.0**	**96% of Bauer Verlag: 45 newspapers and magazines; Carrera Optic, a maker of designer sunglasses; Winn's stores.** When Bauer decided to study economics in 1984, he didn't want to become the talk of Hamburg University. So he attempted anonymity by driving around in an old VW instead of his favored BMW. His new academic skills don't seem to be helping him in negotiations with Germany's privatization agency, though—it agreed to sell him just one of the six East German newspapers he went after last year.
DHANIN CHEARAVANONT, 52 **and family**	Bangkok THAILAND	**$1.0**	**Stakes in Charoen Pokphand companies in Hong Kong, Indonesia, and Taiwan: food processing, animal feed, chemicals, and telecommunications.** Jaran Chearavanont set up his first animal feed mill in 1953 and soon afterward extended his business to include human food. Jaran and his brothers changed the diets of at least five countries, boosting consumption of meat, especially chicken. The family operates as a meritocracy, so while Jaran is very much alive, fourth brother Dhanin actually controls the CP group.
NEJAT FERIT ECZACIBAŞI, 70	Istanbul TURKEY	**$1.0**	**Eczacibaşi Group: pharmaceuticals and ceramics.** It's no coincidence that Eczacibaşi means "head pharmacist"; that's the title granted to Nejat's apothecary father by the Izmir city assembly in 1909. Later the family simply adopted it as their surname. Nejat has dedicated himself to westernizing the Turkish pharmaceuticals industry.
PRINCE JOACHIM EGON VON FÜRSTENBERG, 69 **and family**	Donaueschingen GERMANY	**$1.0**	**100% of Fürstenbergische Bräuerei KG; banking; real estate.** Upstart beer companies like Coors and Anheuser-Busch should study the Fürstenbergs: they've successfully navigated shifts in the brewing industry for the past 700 years. Along the way they've entertained casual friends like Wolfgang Amadeus Mozart in the family's main castle in Donaueschingen.
GÜNTER HERZ, 52 **and family**	Hamburg GERMANY	**$1.0**	**100% of Tchibo Frisch-Röst-Kaffee; 25% of Beiersdorf, cosmetics.** Herz has been neglecting his beloved racehorses in order to establish his late father's coffee retailing chain in eastern Europe. Tchibo is acquiring a stake in Czechoslovakia's largest coffee roaster. Brothers Michael and Wolfgang prefer the smell of roses—they have taken over a florist chain.
ABDUL-LATIF JAMEEL, 75 **and family**	Jeddah SAUDI ARABIA	**$1.0**	**Sole agent for Toyota distribution in Saudi Arabia; real estate.** Abdul-Latif stepped down in favor of sons Yusuf and Mohammad when the American-educated pair switched the family firm over to Western management in the 1970s. Yusuf, who used to manage the family's foreign investments from Monaco, has now returned home, grown a long beard, and become deeply religious.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
EDWARD C. JOHNSON 3d, 62 **and family**	Boston MASSACHUSETTS	**$1.0**	**47% of Fidelity Investments.** The secret of this family's success is neighborly service to *millions* of customers. CEO Ned pushes state-of-the-art technology to keep the mutual fund giant more humane—Fidelity's NASA-like control center attempts to answer 85% of customer calls within 20 seconds. Net operating income nearly tripled in 1991. The Johnsons have been running Fidelity since 1943 when Ned's father, a Boston lawyer so dauntingly aristocratic that he was always called Mister Johnson, took over a $3 million mutual fund he refered to as "my darling little trust fund."
LEO KIRCH, 65	Munich GERMANY	**$1.0**	**100% of Kirch Group: film distribution, television, publishing.** Though the Social Democratic Party has already accused him of having a monopoly, Kirch, who simply can't control himself, has acquired even larger stakes in various media companies. Among his holdings are large chunks of all but one of Germany's private television stations.
JOAN KROC, 63	San Diego CALIFORNIA	**$1.0**	**4.9% of McDonalds.** After selling 1.5 million shares in 1991, the widow of Ray A. Kroc, the founder of the country's hamburger colossus, still has plenty of ketchup left. One of the wealthiest women in America, the former music teacher and supper-club organist has organized projects to battle alcoholism and AIDS, and gives money to Ronald McDonald Children's Charities.
ROBERTO MARINHO, 87	Rio de Janeiro BRAZIL	**$1.0**	**100% of Globo Group: TV Globo, O Globo newspaper, telecommunications, banking, insurance, 51% of NEC do Brasil, real estate.** Marinho ranked as Brazil's second most powerful man—behind the governor of the state of Bahia—in a recent poll. The influence of TV Globo (the world's fourth-largest commercial television network) is strong in Brazil, a country where a quarter of the population is illiterate and the President often communicates by T-shirt slogan.
JACQUES MAUS, 62 **BERTRAND MAUS,** 60	Geneva SWITZERLAND	**$1.0**	**50% of Maus Freres: department stores, hypermarkets, restaurants.** The Maus brothers' balance sheet is a little more solid than it was a year ago when their U.S. subsidiary, P.A. Bergner, overpaid for the debt-burdened Midwestern department store chain Carson Pirie Scott. The brothers, along with their partners and cousins the Nordmanns (see below), negotiated better loan conditions and are successfully reorganizing P.A. Bergner under Chapter 11. Selling their 42% stake in Au Printemps after speculators drove the stock price into the stratosphere didn't hurt either.
ENRIQUE MOLINA, 58	Mexico City MEXICO	**$1.0**	**80% of Grupo Embotellador, soft drinks and mineral waters; sugar mills; real estate; auto dealerships.** Bottling and distributing soft drinks certainly isn't the toughest way to make a living in hot Mexico. But just in case the climate changes, Molina is covered—he also sells cars and sugar, and puts leftover cash into land. But a little of the lucre has gone into two 100-foot-plus yachts that Molina cruises in from time to time.
PHILIPPE NORDMANN, 60	Geneva SWITZERLAND	**$1.0**	**50% of Maus Freres.** The Maus-Nordmann retail connection is said to have begun in 1929, when Philippe's father, Robert, married Ernest Maus's daughter, Simone. Philippe is famous for his odd economies such as smoking cigarettes every other year.
JACK RUDIN, 68 **LEWIS RUDIN,** 65	New York NEW YORK	**$1.0**	**Rudin Management Co., Manhattan real estate.** Property tycoons Jack and Lewis Rudin seem to have come through the commercial real estate crash by practicing what their father preached: Never sell, keep debt low, and stay liquid. Both brothers have also dedicated themselves to polishing up the Big Apple's image. Lew chairs the Association for a Better New York, and Jack is involved in the New York City Marathon.
ABDUL-MAJEED SHOMAN, 80 **and family**	Amman JORDAN	**$1.0**	**20% of the Arab Bank Ltd., the largest private bank in the Middle East.** The so-called PLO's Banker knows how to do business in the volatile Middle East. When there was a run on his father's Arab Bank at the outbreak of World War II, Shoman sat at the teller's window and peeled off single pound notes with painstaking slowness until closing hours to stave off disaster. Now he insists on liquidity, keeping some 66% of the bank's assets in cash.
SIR JOHN SWIRE, 65 **SIR ADRIAN SWIRE,** 60	Kent ENGLAND London ENGLAND	**$1.0**	**65% of John Swire & Sons Ltd.: shipping, airlines, construction, and insurance.** The Swires are still earning most of their global profits in Hong Kong, where they are digging in, making deals, and hoping for a reform regime come 1997. Their interests in Hong Kong include a stake in Cathay Pacific Airline. The Oxford-educated brothers have three children each.

NEWCOMERS AMERICANS EUROPEANS ASIANS OTHERS

The BILLIONAIRES

Prince Albert

NAME Age		WEALTH Billions of U.S. dollars	SOURCES OF WEALTH Background
PRINCE ALBERT VON THURN UND TAXIS, 39	Regensburg GERMANY	**$1.0**	**Real estate in Germany, Canada, Brazil; breweries; art; castles.** Since her husband's death in 1990, Princess Gloria, 32, has been selling off her son's inherited empire to pay estate debts and death duties amounting to some $500 million. Last June she got rid of the family's Furst Thurn & Taxis bank, put the Brazilian real estate up for sale, and cut the Schloss staff from 250 to 65. Most controversial is an upcoming Sotheby's auction of ancestral goodies like jewelry and silver, which the Bavarian National Trust is trying to block.
VARDIS J. VARDINOYANNIS, 59 **and family**	Athens GREECE	**$1.0**	**Vardinoyannis Group: shipping, oil refining and production, real estate, publishing, tourism.** The Vardinoyannis name is relatively new to the Greek tycoon scene. This conglomerate began in 1961 when 28-year-old Nicos J. Vardinoyannis established a chain of shipping bunkers. Brother Vardis, who took over with the other three surviving brothers when Nico died, in 1973, is not just an industrialist but an influential newspaper and magazine publisher.

INDEX TO THE BILLIONAIRES

Name	Page
ABRAMOVICH, ROMAN	120
ADAMS, CHARLES F.	120
ADAMS, JOHN	120
ADAMS, JOHN QUINCY	120
ADAMS, SAMUEL	120
AGNELLI, GIANNI	120
AGNELLI, SUSANNA	120
AGNELLI, UMBERTO	120
AHMANSON, HOWARD F. JR.	120
AHMANSON, HOWARD F. SR.	120
AHMANSON, ROBERT	120
AKERS, JOHN F.	120
ALAVI, ANWAR	120
ALBERTO-CULVER, LEONARD H.	120
ALBERTSON, HAROLD	120
ALBERTSON, JOE	120
ALBERTSON, KENNETH	120
ALBERTSON, MARY	120
ALBERTSON, WILLIAM	120
ALDEN, CHARLES	120
ALDEN, GEORGE	120
ALDEN, JOHN	120
ALDEN, JOHN JR.	120
ALDEN, JOHN III	120
ALDEN, JOHN IV	120
ALDEN, JOHN V	120
ALDEN, JOHN VI	120
ALDEN, JOHN VII	120
ALDEN, JOHN VIII	120
ALDEN, JOHN IX	120
ALDEN, JOHN X	120
ALDEN, JOHN XI	120
ALDEN, JOHN XII	120
ALDEN, JOHN XIII	120
ALDEN, JOHN XIV	120
ALDEN, JOHN XV	120
ALDEN, JOHN XVI	120
ALDEN, JOHN XVII	120
ALDEN, JOHN XVIII	120
ALDEN, JOHN XIX	120
ALDEN, JOHN XX	120
ALDEN, JOHN XXI	120
ALDEN, JOHN XXII	120
ALDEN, JOHN XXIII	120
ALDEN, JOHN XXIV	120
ALDEN, JOHN XXV	120
ALDEN, JOHN XXVI	120
ALDEN, JOHN XXVII	120
ALDEN, JOHN XXVIII	120
ALDEN, JOHN XXIX	120
ALDEN, JOHN XXX	120
ALDEN, JOHN XXXI	120
ALDEN, JOHN XXXII	120
ALDEN, JOHN XXXIII	120
ALDEN, JOHN XXXIV	120
ALDEN, JOHN XXXV	120
ALDEN, JOHN XXXVI	120
ALDEN, JOHN XXXVII	120
ALDEN, JOHN XXXVIII	120
ALDEN, JOHN XXXIX	120
ALDEN, JOHN XL	120
ALDEN, JOHN XLI	120
ALDEN, JOHN XLII	120
ALDEN, JOHN XLIII	120
ALDEN, JOHN XLIV	120
ALDEN, JOHN XLV	120
ALDEN, JOHN XLVI	120
ALDEN, JOHN XLVII	120
ALDEN, JOHN XLVIII	120
ALDEN, JOHN XLIX	120
ALDEN, JOHN L	120
ALDEN, JOHN LI	120
ALDEN, JOHN LII	120
ALDEN, JOHN LIII	120
ALDEN, JOHN LIV	120
ALDEN, JOHN LV	120
ALDEN, JOHN LVI	120
ALDEN, JOHN LVII	120
ALDEN, JOHN LVIII	120
ALDEN, JOHN LIX	120
ALDEN, JOHN LX	120
ALDEN, JOHN LXI	120
ALDEN, JOHN LXII	120
ALDEN, JOHN LXIII	120
ALDEN, JOHN LXIV	120
ALDEN, JOHN LXV	120
ALDEN, JOHN LXVI	120
ALDEN, JOHN LXVII	120
ALDEN, JOHN LXVIII	120
ALDEN, JOHN LXIX	120
ALDEN, JOHN LXX	120
ALDEN, JOHN LXXI	120
ALDEN, JOHN LXXII	120
ALDEN, JOHN LXXIII	120
ALDEN, JOHN LXXIV	120
ALDEN, JOHN LXXV	120
ALDEN, JOHN LXXVI	120
ALDEN, JOHN LXXVII	120
ALDEN, JOHN LXXVIII	120
ALDEN, JOHN LXXIX	120
ALDEN, JOHN LXXX	120
ALDEN, JOHN LXXXI	120
ALDEN, JOHN LXXXII	120
ALDEN, JOHN LXXXIII	120
ALDEN, JOHN LXXXIV	120
ALDEN, JOHN LXXXV	120
ALDEN, JOHN LXXXVI	120
ALDEN, JOHN LXXXVII	120
ALDEN, JOHN LXXXVIII	120
ALDEN, JOHN LXXXIX	120
ALDEN, JOHN XC	120
ALDEN, JOHN XCI	120
ALDEN, JOHN XCII	120
ALDEN, JOHN XCIII	120
ALDEN, JOHN XCIV	120
ALDEN, JOHN XCV	120
ALDEN, JOHN XCVI	120
ALDEN, JOHN XCVII	120
ALDEN, JOHN XCVIII	120
ALDEN, JOHN XCIX	120
ALDEN, JOHN C	120

GERMANY'S NEW POWER • PC WARS • JAPAN'S LATEST STRATEGY

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SEPTEMBER 21 1992

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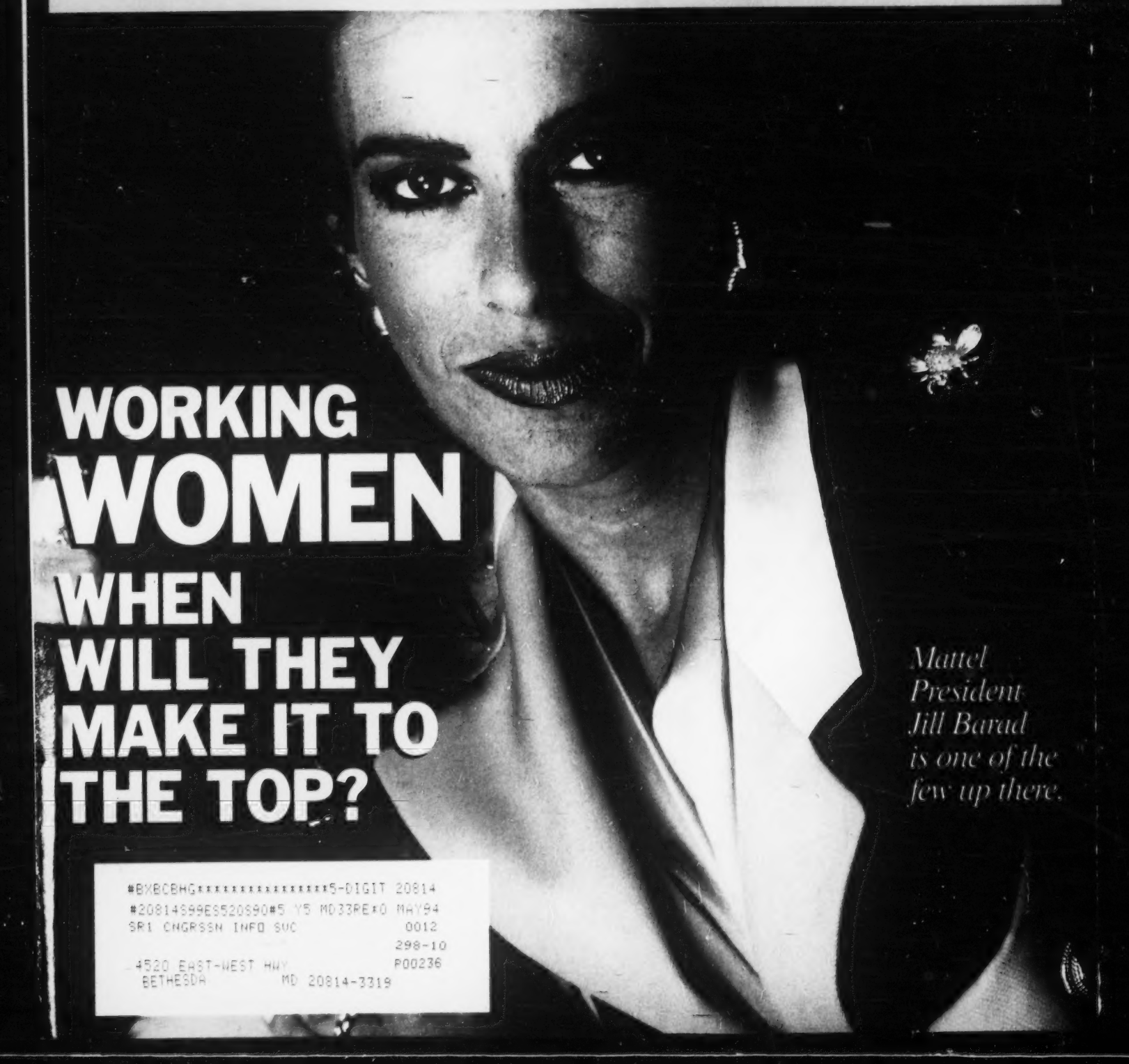

WORKING WOMEN

WHEN WILL THEY MAKE IT TO THE TOP?

Mattel President Jill Barad is one of the few up there.

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SEPTEMBER 21, 1992 VOL. 126, NO. 6

FORTUNE

"You have to be willing to step out of the pack and take risks, even be willing to jump completely out of your element, if that's what it takes." 44

MANAGING

BRACE FOR JAPAN'S HOT NEW STRATEGY 62

After a mighty effort, top U.S. companies are closing the quality gap. But their toughest rivals—guess who?—have moved on to *flexibility*. Its watchwords are change fast and respond quickly to customers. Manufacturers and service companies will have to play the game to prosper. It's catch-up time again. *by Thomas A. Stewart*

ARE STRATEGIC ALLIANCES WORKING? 77

For many companies, success is elusive. The best alliances allow for lots of flexibility and are breaking new ground in the etiquette of corporate power sharing. If you start one, don't plan on ending it in just a few years. To be effective, it should last decades. *by Stratford Sherman*

TECHNOLOGY

WHO'S WINNING THE PC PRICE WARS? 80

The customer is. In barely half a year prices have dropped 35%. But pessimists fear the industry will come to resemble the airline business, with price wars and bankruptcies the order of the day. Already, the smaller clonemakers are bleeding. A two-tier market has emerged—high-tech hot stuff at one end, look-alike commodity PCs at the other. *by Andrew Kupfer*

THE CARE AND FEEDING OF ENGINEERS 86

Few are nerds wearing pocket protectors. Although their love for doohickeys and gadgets sometimes borders on the obsessional, most are sociable and articulate. They're front-line troops in the battles for the environment and U.S. global market share. *by Mark Alpert*

MANAGING/COVER STORIES

ABOVE: Carol Bartz, newly named chairman and CEO of Sausalito-based software company Autodesk. Photo by Dana Fineman—Sygma.

COVER: Jill Barad, president of Mattel, also photographed by Dana Fineman of Sygma.

WHEN WILL WOMEN GET TO THE TOP? 44

Not for a long time yet, says a surprising FORTUNE CEO poll. Discrimination still abounds. But some pioneers are already there, and others are doing all the right stuff. And in a global economy, no company can afford to waste brainpower simply because it's wearing a skirt. *by Anne B. Fisher*

IF YOU CAN'T JOIN 'EM, BEAT 'EM 58

Yes, women still face discrimination. But this woman writer argues that the way to overcome is to stop acting like victims and start outdoing men at their own game. *by Nancy J. Perry*

"We Americans are used to acquisition and control. That's our mind-set." 77

"It's like sex. You make a mistake once and then you have to live with it for years." 86

"What makes Murdoch different from guys like Robert Maxwell is that he didn't stay in denial for too long." 99

"If we thought someone was end-running environmental rules . . . we would not want to deal with him." 107

"We didn't realize to what degree the economy of the East had been eaten up and destroyed." 149

"I had to shed my MBA skin because being a real businessman hurt me in dealing with the artists." 223

CORPORATE PERFORMANCE

THE FUTURE IS GLUED TO THE TUBE 99
Rupert Murdoch's News Corp. mops up after its debt binge and focuses on TV. *by Nancy J. Perry*

IN SEARCH OF THE '90s CONSUMER 100
Once a hot retailer, the Limited struggles to regain the magic. *by Susan Caminiti*

COMPANIES TO WATCH 103

MONEY & MARKETS

A NEW REASON YOU CAN'T GET A LOAN 107
Bankers used to look at your balance sheet before they lent you money. Now they demand an environmental audit and proof that your company never—*ever*—polluted. *by Gary Hector*

INNOVATION

PRODUCTS TO WATCH 115

LAWYERS

HOW TO CUT THOSE #$%* LEGAL COSTS 119
By hiring in-house staff and squeezing outside firms, clients are slashing bills. *by Shawn Tully*

THE ECONOMY

THE TRUTH ABOUT THE RICH AND THE POOR 134
Are the wealthy gaining at the expense of the poor and the middle class? Conservatives and liberals can't agree. Rhetoric aside, here are the facts. *by Louis S. Richman*

EUROPE

WHY GERMANY WILL LEAD EUROPE 149
Yes, unification is costing more and taking longer than first promised. But make no mistake: Europe's largest economy is becoming a global superpower. *by Carla Rapoport*

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

NEWS/TRENDS 12
George Bush's strategy for a comeback, how both candidates hide the cost of their promises, fake art earns real money, and more.

FORTUNE FORECAST 21
Low interest rates and record company profits will boost corporate spending. *by Joseph Spiers*

Economic Intelligence: The case for a floating dollar and a parable about boats and taxes.

PERSONAL INVESTING 29
Growth stocks, for a song. *by William E. Sheeline*

Also: Why the Tokyo market may be touching bottom, how to get stocklike pep with bondlike yields, and Portfolio Talk with James Schmidt of the Freedom Regional Bank Fund.

LETTERS TO FORTUNE 40

FORTUNE PEOPLE 223
The nonagenarian in Warren Buffett's path, and more. *by Laurie Kretchmar*

KEEPING UP *by Daniel Seligman* 227

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EDITOR'S DESK

TRACKING WOMEN'S PROGRESS

Writer Anne B. Fisher handicaps the race to the top.

FROM CONSERVATIVE politicians to ardent feminists, everyone is raising questions about the role of working women. FORTUNE provides some answers. When will women rise to the top in corporate America? What is holding them back? How can they advance faster? We put those questions, and more, to 201 chief executives of major corporations. Their responses will arouse some people, infuriate others, inspire still others—and, we hope, illuminate all.

In addition to analyzing the poll results, associate editor Anne Fisher reports on what companies are doing to remove obstacles that have hampered women. In an accompanying essay, Los Angeles bureau chief Nancy Perry declares that too many women hurt themselves by being more concerned with discrimination than performance. In her interviews with top women executives, a consensus emerged: Talent and assertiveness mean much more than gender.

"What's striking about both stories," says senior editor Richard Kirkland, "is the amount of agreement between male CEOs and female managers: The glass ceiling is real, they say, but the cracks in it are growing and should widen dramatically as new leaders take charge."

●

I'm sorry you didn't know Dick Armstrong. He was one of those rare people who always got you to think—and just as easily to laugh. We at FORTUNE were lucky to have this witty, warm, superintelligent Mississippian as our colleague since 1969. He was a primary force in the direction of our magazine, first as assistant managing editor from 1974 to 1977, then as executive editor until he retired in 1989. He was a model for a whole generation of our writers, reporters, and editors. He was also a brilliant wordsmith; had he edited these remarks, he would surely have improved them.

Dick died in August after a brave struggle with cancer. He was 62. We miss him very much. His influence will be felt for many years to come.

Executive editor Richard Armstrong (1989)

Marshall Loeb

MANAGING EDITOR

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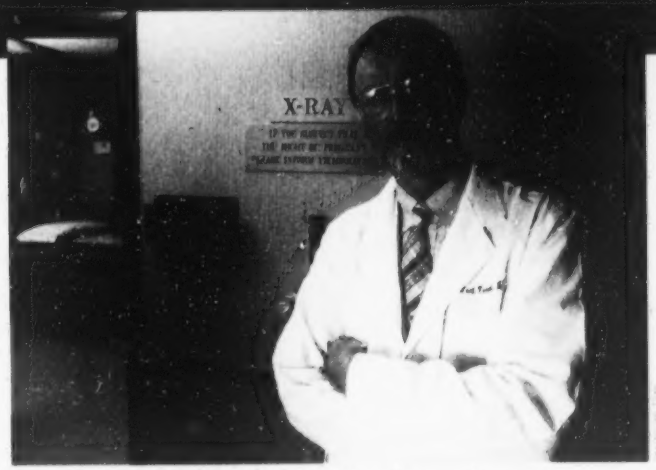
fancy fish can be explained. In September of 1991, 550 members of five unions, including the Hotel Employees and Restaurant Employees International and the Teamsters, struck the Frontier Hotel & Gambling Hall on the Strip. Labor claims the Elardi family, which owns the Frontier, is union-busting by eliminating its pension plan and cutting wages.

Executives of the bigger casinos are backing the unions. They see the Frontier's belligerence as a threat to the town's hoped-for image as a family resort destination. Says William Bennett, CEO of **Circus Circus Enterprises**, a gaming company with over $800 million in sales last year: "Las Vegas has enough of an image problem without the Frontier making it worse. We just had a record quarter, and we're unionized." So are about 80% of the hotels and casinos in Las Vegas.

A true Las Vegan, Bennett put some cash behind his opinion. And that's where the salmon swims in. In mid-August a food truck from Circus Circus began delivering three meals a day to several hundred picketing Frontier workers. A recent breakfast menu included eggs, bacon, hash browns, biscuits, pancakes, and melon. At least once, poached salmon was served for dinner. Bennett says the feedings, which cost $600 per day, are paid for partly by Circus Circus and partly out of his own pocket. Bennett hopes his efforts will pressure the Frontier to return labor peace to the Strip.

– **Andrew E. Serwer**



Kurad is trading in his M.D. for an MBA and a consulting practice.

BIRTHRATES *IN EXTREMIS*

■ The mix of citizens in developed countries is tilting toward the old. For youth, look to the Third World, particularly sub-Saharan Africa, where families average six-plus children each (see chart). About two of ten children in the region die before reaching age 5.

It's the old story: As nations industrialize and become more prosperous, their birthrate falls. Populations in many developed countries are not even reproducing themselves. The private Population Reference Bureau in Washington, D.C., says that Western Europe and Japan check in at or below replacement level—two babies per mother. The U.S. is holding its own, due to a slightly higher birthrate, immigration, and the boomers' baby boomlet—that is, more couples having babies.

Neither birthrate extreme is good. Less developed countries must expand their infrastructures to support growing populations but don't have the economic growth to pay for it. Industrialized countries face a deficit of the workers they will need to support older generations. Despite their opposition to immigration now, Japan and Europe ultimately may have to import more workers to make up the shortage. – **Karen Nickel**

WHOSE POPULATION IS AGING FASTEST

COUNTRY	MEDIAN AGES PAST & PROJECTED 1990	2010
Italy	36.2	42.4
Japan	37.2	42.2
Britain	35.7	40.0
U.S.	32.9	37.4
Korea (North & South)	25.7	34.4
China	25.4	33.9
Brazil	22.9	29.2
Mexico	20.0	26.5
Nigeria	16.3	18.1

PHYSICIAN, DEAL THYSELF?

■ Doctors are heading to business schools to discover a cure for tighter government regulations, onerous insurance requirements, and increasing scrutiny of their fees—or else to find a new career. Health care professionals account for 12% of the class in Wake Forest University's Babcock executive MBA program, up from 6% three years ago. Other B-schools with executive MBAs—including Minnesota's Carlson and Southern Methodist's Cox—are seeing like gains. Wake Forest is also one of six universities that offer a combined M.D. MBA program.

Ward Kurad, 58, a urologist in Hickory, North Carolina, is a 1991 Babcock grad. He's giving up his practice of 27 years to become a consultant to businesses and hospitals. Says he: "The medical profession has had a blank check for 25 years. Now we have to start using the tools—quality and cost control, outcomes management—that business has been developing over that time."

Doctors who manage their own medical groups are coagulating at organizations such as the American College of Physician Executives, which leads management seminars.

Kurad estimates that as a consultant he'll earn $100,000, half what he made as a physician. Says the good doctor: "I still love the medical aspects of practicing, but I've burned out on the paperwork mill and the hassles with insurance and Medicare."

– **Rick Tetzeli**

NOW HEAR THIS

■ **WALTER SCHUETZE,** 60, chief accountant of the SEC, on why banks should mark their loans to current value rather than to historical cost:

"Take a wristwatch, and go down to a pawnbroker and try to get a loan on it based on your cost. You'll find out how useful cost is."

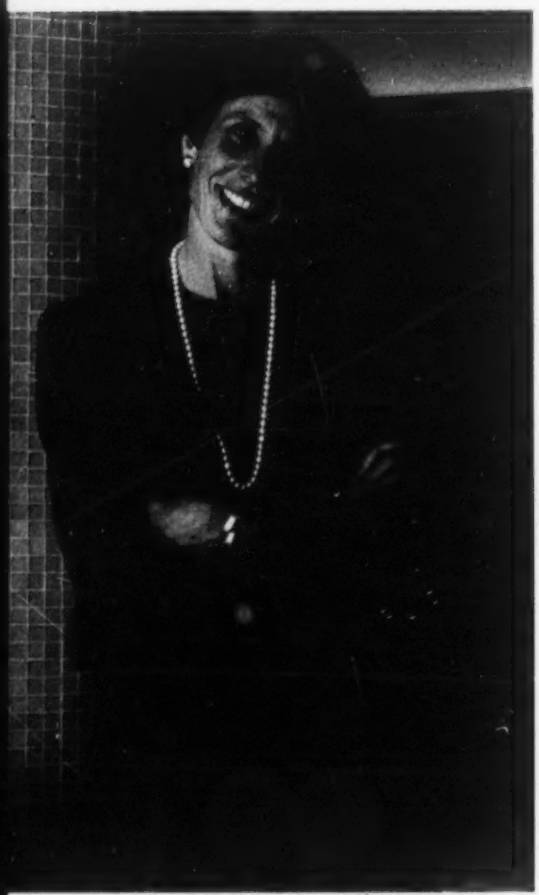
■ **ALLAN GILMOUR,** 58, executive vice president of Ford Motor, explaining why the Ford Explorer is the best-selling consumer product in the country costing more than $20,000:

"In difficult economic times, this is a classless product. If you used to have a Mercedes and can't afford it anymore, you can have an Explorer and people won't think you've run out of money."

WHEN WILL WOMEN GET TO THE TOP?

Not for a long time yet, according to a new FORTUNE CEO poll. But a few pioneers are already there, and a growing crowd of others are doing all the right stuff. ■ *by Anne B. Fisher*

TALK FOR A WHILE with any woman who has worked her way to the top of a sizable U.S. corporation. You'll get a strong sense that she feels a bit like *Apollo 14* astronaut Alan Shepard when he improvised a six iron out of a piece of lunar equipment and, one-handed in his cumbersome space suit, whacked a golf ball that flickered eerily across the airless surface of the moon. Exhilarated, isolated, keenly aware of the world's attention (*"Houston, can you see me now?"*), female high executives are eager to colonize this unaccustomed terrain with more of their own. But like astronauts, they know too much about the rigors of the journey to believe that it can happen by next Wednesday, or even by next year. Says Carol Bartz, 44, recently named chairman and CEO of Autodesk, a leading maker of software for engineers and architects in Sausalito, California: "I think that women in corporate America are still a generation away from real success."



IRENE ROSENFELD, 39, executive vice president, Kraft-General Foods: "Do your job brilliantly, and the cream will rise to the top."

Q **How likely is it that your company will have a female CEO ...**

A

	In next 10 years?	In next 20 years?
Very likely	2%	18%
Somewhat likely	14%	63%
Not very likely	42%	15%
Not likely at all	40%	2%
Not sure/ no answer	2%	2%

Alas, the top men in corporate America appear to agree. A poll of 201 chief executives of the nation's largest companies, conducted exclusively for FORTUNE by the opinion research firm Clark Martire & Bartolomeo, reveals that only 16% believe it is "very likely" or "somewhat likely" that they could be succeeded by a female CEO within the next decade. And only 18% think it's "very likely" that even after 20 years a woman would be picked to run their companies.

Why? The CEOs in our survey cite a host of reasons, but the biggest barrier, as a few of them admit, is an irrational one—plain and simple discrimination. Notes John H. Bryan, 56, CEO of Sara Lee: "I'm not sure there's a lot that women can do about it. They're already working hard and are very qualified. It shouldn't be this way, but too many senior managers, and particularly CEOs, tend to want to pass their jobs along to someone who's the image and likeness of themselves." John Nelson, 48, who heads Norwest Colorado, a bank holding company, agrees: "The problem with women advancing has more to do with men than with women. Men have dragged their feet."

Thanks for the honesty, guys, but that's pretty discouraging news. And coming during an election year in which, incredibly, some conservative politicians and leaders of the religious right are openly or implicitly condemning the very notion that women *should* work outside the home, it's enough to make even the most optimistic female executive despair. That would be wrong, however, because better days *are* coming.

True, progress has been painfully slow, and there has even been some backsliding. Susan Lowance, director of senior executive programs at MIT's Sloan School of Management, points out that the executive-training seminars run by U.S. business schools—an indispensable credential for future CEOs in many companies—are almost as exclusively a male preserve as Bohemian Grove. Enrollment in these

REPORTER ASSOCIATE *Therese Eiben*

PHOTOGRAPHS BY DANA FINEMAN—SYGMA

CAROL BARTZ, 44, chairman and CEO of California software maker Autodesk: "You have to be willing to step out of the pack and take risks, even jump completely out of your element if that's what it takes."

programs nationwide is just 5% female, after peaking at 8% in the late 1980s. "Companies were trying a little harder, for a while, to develop senior women managers," Lowance explains. "But the recession scotched that. In tough times, top management prefers to entrust the risks that accompany decision-making at the highest levels to a known quantity—meaning someone like themselves. A man."

Here's more bad news: The Department of Labor's latest report on the limits to promotion of women at 94 major government contractors finds that few are being groomed for senior-level jobs. "The glass ceiling in most companies is a lot lower than we thought it was," says Labor Secretary Lynn Martin. "And too few women are getting the training they need to move up."

Nor have women managers achieved paycheck parity with men. Among all females with full-time jobs, the much publicized wage gap between the sexes keeps shrinking. On average, a woman now earns about 74 cents for every dollar a man brings home, up from 65 cents a decade ago. Those relative gains reflect the fact that women are better educated and hold more highly skilled positions than ever before.

What's frustrating is that at the same level of management, the typical woman's pay is lower than her male colleague's—even when she has the exact same qualifications, works just as many years, relocates just as often, provides the main financial support for her family, takes no time off for personal reasons, and wins the same number of promotions to comparable jobs. That discouraging conclusion comes from a new study of 1,029 managers at 20 FORTUNE 500 companies across eight industries. Over five years ending in 1989, women managers' pay increased 54%, their male counterparts' 65%.

Says Linda Stroh, 44, one of the study's co-authors, who teaches in the Institute of Industrial Relations at Loyola University in Chicago: "The disparity probably comes partly from the lingering and often unconscious perception that women are going to leave to have babies. But the women managers we studied were in the work force to stay and had done all the right stuff. It still wasn't enough."

Even so, most of the available data support the notion that, on balance, women in the workplace undeniably are advancing. To a man—and that's what they all are—the CEOs polled by FORTUNE say over the past five years the number of female middle managers at their companies has either increased (92%) or stayed about the same (8%). As for female officers, 62% of chief executives say their number rose as well. Insists Richard Deihl, 64, chairman of H.F. Ahmanson & Co., a big California mortgage lender: "Women are already moving up into higher and higher positions. We should at least see a woman chief operating officer here well before 20 years from now."

Labor Department statistics support this upbeat forecast. Using a broad-gauge definition of "manager" that includes everybody from the head of a fast food restaurant to a CEO, Labor reports that about 41% of U.S. managers were female as of mid-1991, up from 32% in 1983.

FORTUNE's own research suggests that a similar though smaller increase occurred in the number of top female managers. To see if America's business leaders were really walking their talk on this subject, we commissioned Directorship, a research and consulting firm in Westport, Connecticut, to comb the 1986 and 1991 annual reports of the companies whose

Q How has the number of female executives in your company changed over the past five years?

A

	Middle managers	Officers
Increased	92%	62%
Decreased	0	1%
About the same	8%	36%

bosses had answered our CEO poll. Its task: to tally the number of women who held senior positions in those two base years. We defined "senior" as a job within three levels of management of the chief executive's office. In the case of staff, that would encompass a chief financial officer or his equal, a company comptroller and his counterparts, and finally, say, someone like the head of the accounting staff. Among line officers, the three tiers might stretch from president to a division head.

Of this select group, 4.8% in 1991 turned out to be women. Think that's small? Go back five years, to 1986: Only 2.9% of senior managers were then female. Gazers at the half-empty part of glasses will quickly complain that roughly 5% is still a scant one-tenth the number of female managers we would have if women's presence in the executive suite matched their representation in the rest of the workplace. (Women now account for nearly half all full-time U.S. workers.) An optimist, of course, would applaud a rise of nearly 60% in just five years.

MOST IMPORTANT, evidence abounds that women's second-class citizenship in corporate America is finally about to be upgraded. Sex discrimination is already less of an obstacle in some industries than in others. High-tech and service companies, for example, are generally more inclined to promote women than old-line manufacturers in businesses like steel and autos.

One important agent of change will be demographics. Restructurings and layoffs have produced a surplus of skilled, experienced managers of both sexes. But rock-bottom birth rates in the early and midddle 1970s guarantee that later in this decade and well into the next one, not enough boy baby-busters will be there to fill the new managerial jobs that the economy will generate. Any business that wants to stay competitive will have to hire, train, and reward women.

Another demographic factor is the increasing prevalence of two-career marriages. Ellen Galinsky, co-president of a nonprofit New York City research and consulting group, the Families and Work Institute, often conducts focus groups with men in their 20s and 30s. "These men are almost all in dual-career households, and they have a totally different perspective from their fathers' generation," she notes. "They empathize far more with conflicts between family and work responsibilities, since they know firsthand what it's like to have no full-time help tending the home fires. They quite often say to me, 'These guys upstairs who are running things just don't *understand*.' "

Q How widespread a problem is discrimination against women?

A

	Middle management	Top executives/ officer level
Very widespread	6%	20%
Somewhat widespread	52%	44%
Not really a problem anymore	38%	31%

Galinsky believes that as the current crop of thirtysomethings ascend to positions of power, companies' cultures are bound to become more flexible—and less insistent that a valued manager choose, in effect, between a child and a promotion. Jill Elikann Barad, 41, who in July was named president and chief operating officer of Mattel, the $1.6-billion-a-year toymaker, shares that faith in generational change. When told the results of FORTUNE's CEO poll, she dismissed as "ridiculous" the notion that women must expect to wait 20 more years to become chief executives. She says: "I don't know how these guys can say that. Maybe they won't be the ones making the decision."

Finally, there's the "pipeline" argument. For at least ten years we've all been hearing that while there aren't yet enough qualified women, as their number and experience increase, more will reach the top. Fully 64% of CEOs in FORTUNE's poll attribute women's absence from the executive suites in large part to lack of experience. "We've always joked that it takes 30 years to be al-

D. J. HULET, 36, regional marketing manager, Pacific Bell: "I'm very candid and speak my mind. Other managers have told me, 'If you did the same things you're doing and you were a guy, you'd be OK.' "

owed to empty the wastebaskets around ere," says Charles A. Corry, 60, chairman f USX Corp. "It took me 21 years and 12 ob changes to become a vice president. It's he same for women. It takes time." Robert . Winters, 60, CEO of Prudential, agrees: Women should persist, endure, hang in. The wave is really crest high now. Women re making a mark, but they have to keep p the good work."

It's been a wearisome slog, but a light is ow glimmering at the end of the pipeline. The Bureau of Labor Statistics reports that here are 6.1 million female managers in he U.S., up from about 3.5 million in 1983. These women, many of whom are in their arly 30s to mid-40s, are the first genera- ion to accumulate the same education, ex- erience, and expectations as their male ounterparts, and to find strength in their onsiderable numbers. Says MIT's Susan owance: "If many women are ever to each the top of corporations, it's the ones n that big middle-management group who re going to do it." Labor Secretary Martin xpects those middle managers to push ard for recognition. "A lot of us thought ur pioneering days were over," she says, but they aren't."

That's why the smartest companies are levoting ever more time and resources to roadening and developing the talented fe- nale middle managers they have already ired. Hardly any of the CEOs polled by FORTUNE—only 8%—think women lack he aggressiveness or determination to cale the corporate heights. And just 5% aid that women should be more willing han they are to relocate for a promotion, n issue that some studies have suggested is eeping good female managers down. But nearly half insisted that the reason it will ake two decades for a female to rise to the op of their companies is that women man- agers are still too concentrated in fields such as communications and human re- sources, which rarely if ever lead upward.

"It really isn't a question of what else women should be doing. It's a question of what *companies* should be doing to ensure that women are getting the opportunities men get," says William Ruckelshaus, 60, chairman of Browning-Ferris Industries. Even in relatively nonsexist industries like retailing, some CEOs think there's much to be done. "We have to step up our commit- ment to exposing women to different di- mensions of the business," says Allen Questrom, 51, chairman of Federated De- partment Stores. "Management has a clear

KERI BAUCH-SPARKS, 37, information systems manager at a Monsanto plant in Illinois: "Some men's initial reaction to diversity training is defensive. They think it's going to be a lot of finger pointing."

responsibility to prepare women for broad- based roles."

Toward that end, dozens of corporate colossi, from AT&T to Johnson & Johnson to Xerox, have hired full-time "diversity man- agers," charged by top management to make the workplace more hospitable to tal- ent of either sex and all colors. In some cases this is pure tinsel and tokenism, but for many companies it's a hard-nosed business strategy. Says Aetna Life & Casualty CEO Ronald Compton, 59, who is largely respon- sible for the fact that roughly half his com- pany's managers are now women: "I'm not doing this out of the goodness of my heart. I'm selfish. I want the very best people I can get. A lot of them happen to be women." No diversity campaign will succeed without that kind of blessing from the top.

Alarmed that turnover among female en- gineers and salespeople was twice as high as among men, chemical giant Monsanto hired a consultant to do exit interviews with departing women. Most said they'd had better offers from competitors or planned to start their own firms. "There is a glass ceiling at Monsanto," admits vice president of administration Michael Miller. "We're trying to break it." How? Like many anoth- er company with a formal diversity pro- gram, Monsanto now evaluates—and pays—its managers partly on the basis of how carefully they identify, train, and pro- mote women.

Accounting behemoth Arthur Andersen recruited Joseph Stokes, a psychology pro- fessor at the University of Illinois at Chica- go, to help it work out a diversity program. Stokes says that to ensure that women get more of the broad experience required to rise to officer status, companies must stop assuming that men are automatically more willing than women to leap across division- al boundaries for new assignments. "More companies need to ask both women and men what their long-term career goals are, what kinds of jobs would interest them most, whether they'd consider an overseas transfer, and so on," says he. "And then use that laundry list—which is a kind of blue- print of a person's ambitions—and develop everyone accordingly."

BEYOND ALLOWING qualified women an equal chance at the same jobs men get, diversity-minded companies are trying to recast their cultures so that old attitudinal hurdles don't trip up women who might otherwise be gold medalists. Nancy Ham- lin, president of consulting firm Hamlin Fox in Marblehead, Massachusetts, has

HAZEL O'LEARY, 55, executive vice president, Northern States Power in Minneapolis, is learning how to play golf: "Without losing your personality, it's important to be part of the prevailing corporate culture."

spent 25 years as an adviser on gender issues to General Electric, Hewlett-Packard, Digital Equipment Corp., Fleet Bank, and the U.S. Coast Guard. She says that even in the best-intentioned and most progressive companies, women are usually kept out of the informal channels of information, where important decisions sometimes crystallize. Female managers, for example, are left behind when their male peers go out to lunch, or to a sporting event, or on a good old-fashioned pub crawl. "Men don't do this on purpose," Hamlin says. "They just don't *think* about it."

She and other diversity experts add that, since the Anita Hill–Clarence Thomas debacle, fear and confusion have multiplied. As she says, "Male executives will think, 'Hmmm, wouldn't it be easier, and safer, to take this business trip, or go to that client dinner, with another guy?' " But the most pervasive problem, and perhaps the most intractable one, is that a lifetime of social conditioning has trained many men to think of women as sweethearts, wives, daughters, secretaries—not as equal colleagues. Muses Hamlin: "It's hard to completely re-socialize people."

Hard, but not impossible. Short of waiting for the diehard chauvinists to retire or threatening to fire them if they can't get with the program, what can top management do? Monsanto's diversity effort is typical. The company holds workshops, run by consultants Pope & Associates, designed to expose and dismantle workers' prejudices. About 5,000 Monsanto employees have attended the six-day sessions, and more are signed up to do so.

Keri Bauch-Sparks, 37, an information systems manager at a Monsanto chemical plant in Sauget, Illinois, has been through this drill twice in the past four years. "Some men's initial reaction to it is defensive. They think it's going to be a lot of finger pointing," she says. "But the idea is to improve communications for everybody. Once people see that, they're generally enthusiastic."

In one exercise, the moderator asks group members to write down every stereotypical notion about women they can think of, and the answers are posted on the walls for discussion. One widespread perception among men, which comes up repeatedly, is that women make lousy candidates for promotion because they always put their personal lives, particularly their children, ahead of work. "When you see this stuff up on flip charts around the room, it gets people thinking," says Bauch-Sparks. "Society has been telling us these things for years, but do we necessarily believe they're true?" Slowly but certainly, perceptions at Monsanto are changing, and that seems to be encouraging ambitious women to stick around. Turnover is down, and a second round of exit interviews this summer unearthed far fewer responses marked by frustration and bitterness.

Rare is the company intent on keeping its best female employees and managers that doesn't have some kind of work-family program—a bit of jargon that encompasses everything from day care centers to programs that counsel employees on how to cope with the problems of elderly parents. All share the same purpose: to bolster employee productivity by eliminating some of the distractions that family life inevitably imposes on single parents and two-income couples.

Since 1971 the number of large U.S. employers that provide some kind of day care assistance has grown from 11 to nearly 4,000. Now many companies are going

Q What should female executives be doing to get to the top? (Choose one or more answers.)

A

Develop a broad base of experience	30%
Go into nontraditional positions, such as operations, engineering, manufacturing	14%
Don't change; already doing what they need to do to excel	13%
Make career a higher priority than family life	12%
Be more visible/assertive	12%
Expand network of contacts	9%
It's a matter of time	10%
It's performance, not gender	6%
Get more line (vs. staff) work	6%
Be willing to relocate	5%

much further. Kraft General Foods offers the 2,000 employees at its headquarters in White Plains, New York, a smorgasbord of work-family benefits, including nearby company-subsidized day care centers, extended parental leaves, and vacation time available by the half-day.

Irene Rosenfeld, 39, is executive vice president in charge of the $1-billion-a-year beverage division that makes Kool-Aid and Country Time lemonade. She's also the mother of two young daughters, and she calls the work-family program "terrific." These new policies and services are not for women only. Says Rosenfeld: "Women's issues are rapidly becoming work force issues, and companies that best address them will win in the marketplace." Her own division is winning handily, with double-digit earnings increases in each of the past five years.

About one-third of chief executives in FORTUNE's survey say they've noticed that women's careers often stall out for lack of the kind of informal advice and sponsorship men get from one another. Some companies are trying to remedy that with mentoring programs that pair promising women, nominated by their department heads, with senior executives who proffer one-on-one career counseling. San Francisco–based Pacific Bell started its mentoring drive in late 1989, so the second batch of about 35 female protégées are now nearing the end of their two-year program. What exactly does a mentor do? Consider the experience of D. J. Hulet, 36. She started out in sales 15 years ago, moved up steadily, and in 1990 was assigned mentor John Seymour, 48, vice president and general manager of Pacific Bell's Orange-Riverside division.

Perhaps not surprisingly, she and he view her strengths and weaknesses somewhat differently. "I'm very candid, and I speak my mind," says Hulet. "Other managers have told me, 'You know, if you did the same things you're doing and you were a guy, you'd be OK.'" Really? Seymour explains: "Some people here saw her as very bright but too aggressive. In my opinion there's no such thing as too aggressive. But you do have to learn how to approach people in a way that doesn't create enemies." Seymour coached her on how to influence people without alienating them, manifestly a valuable skill: Hulet was promoted in mid-1991 to regional marketing manager for Los Angeles.

As more women attain high positions, they are reaching out to guide their younger counterparts—sometimes those still in school. A University of Pennsylvania alumnae group called the Trustees' Council of Penn Women, currently headed by First Interstate Bancorp senior vice president Pamela Reis, gives female seniors and business school students a list of about 70 distinguished women they can call for career advice or information. The council also runs a "shadowing" program that lets students spend a workday with a woman executive for a close-up peek at the real world. Constance Duckworth, 37, a partner in fixed-income securities at Goldman Sachs in Chicago, spent time this summer with a 21-year-old Wharton finance student. The two plan to stay in touch. "This is something I didn't have when I was starting out in business," says Duckworth. "It's an 'old-girls' network,' in an embryonic stage."

"Women do need to do more networking," declares Autodesk Chairman Carol Bartz. As a stellar senior executive at Sun Microsystems before taking her current job, Bartz met often with groups of women in the company for brown-bag lunches and tried to make herself available to advise anyone who sought her insights. "At some point I realized, 'Hey, these people are looking up to me,' and my first reaction was, 'I don't have *time* for this,'" she recalls. "But I decided I had to take the responsibility to help pave the way for others—including my daughter, who's 4."

What advice does she give women who aspire to the top job? Like the chief executives in FORTUNE's poll, Bartz believes that women often don't get a wide enough range of experience. "You have to step out of the pack and take risks, even be willing to jump completely out of your element if that's what it takes," she says. It helps, she adds, to start as early as possible. Bartz knows whereof she speaks. Seventeen years ago, while still in her 20s, she quit a comfortable job as a systems analyst at 3M in Atlanta after a marketing executive at headquarters told her the company would never let a woman sell computers.

That fellow is probably kicking himself now. In 1987, with some trepidation, Bartz took over Sun's federal government sales division, an area of the business that was not only entirely alien to her but was populated largely, she says, with "cigar-chomping ex-defense contractors." In just two years under her management, the unit's revenues jumped from $21 million to $124 million.

"There's still a lot of folklore out there about what women can and can't do," observes Kraft General Foods' Irene Rosenfeld. "But don't ever believe you can't do something until you've tried it." In an apt metaphor, given her position, she adds: "Just do your job brilliantly, and sooner or later the cream will rise to the top."

Over and over again, female—and

Q Why is a woman not likely to be a CEO sooner?

A

Women lack long enough experience	64%
Are too concentrated in areas of the company that don't lead to the CEO post, such as communications	50%
Lack broad enough experience	45%
Have not built up solid networks of connections and support	31%
Personal lives and obligation to families get in the way of their careers	29%
Not enough in male-dominated industries, i.e., engineering, manufacturing	17%
It's a matter of time	12%
Current CEO will be in position for a while	9%
Are not aggressive or determined enough to make it to the top	8%
It's a matter of numbers (more men)	6%

male—managers urge women to set career goals and work out a specific plan for achieving them. Hugh McColl Jr., 57, is CEO of NationsBank, the holding company in Charlotte, North Carolina, formed by the recent merger of NCNB and C&S/Sovran. McColl told FORTUNE's pollsters: "Women have to push harder. They often feel that things will be done fairly, whereas men don't believe that, and in reality it's often not the case. So women must ask their bosses what's needed to get to the next level. They then need to make sure they get those opportunities, and ask for feedback every step of the way."

But while you're pushing, keep a stiff upper lip. Mary Herbert, 41, vice president and director of quality for international operations at Motorola, has talked extensively with her female colleagues about their careers. "You do have to go to management and say, 'Here's what I think I can do; here's why; let me try it,'" she says. "But from what I've seen, women who have had a chip on their shoulder—who basically said, 'I should get this job because there are no women at this level of the company'—those are the ones who aren't getting anywhere at all." (See following story.)

The surest way to ascend, of course, is to be so good they can't overlook you. Jill Barad won the No. 2 spot at Mattel largely because as head of the girls' toy division she had overseen a doubling of worldwide sales of Barbie dolls in under four years, to nearly $1 billion (see box). She dismisses the notion that women are at any special disadvantage in business—at least, not if they're smart, hard working, and imaginative. "One day soon, it isn't going to matter anymore what sex anyone is," she says. "It'll come down to a question of who delivers the goods. Performance is what counts."

Hazel O'Leary, 55, an executive vice president at Northern States Power in Minneapolis, agrees: "Whatever you're asked to do, make sure you do a better job of it than the man next to you." But while you're at it, don't neglect to form friendships. "Without losing your own personality, it's important to be part of the prevailing corporate culture," she says. "At this company, it's golf. I've resisted learning to play golf all my life, but I finally had to admit I was missing something that way." O'Leary has bought a set of clubs and tees up with an instructor on weekends.

THE BEST REASON for believing that more women will be in charge before long is that in a ferociously competitive global economy, no company can afford to waste valuable brainpower simply because it's wearing a skirt. That isn't easy for some folks to accept. "Dealing with change is always painful," notes William Boyle, a Monsanto plant manager who is a big believer in the company's diversity-training programs. "But the days when any U.S. company could stand pat, do things the same old way, and say, 'Gosh, look how good we are'—those days are gone."

Happily for women in corporate America, radical change has a way of favoring the underdog. Says Jane White, author of the forthcoming book *A Few Good Women: Breaking the Barriers to Top Management*: "I think we're living in a fantastic time. The ferment that is happening now will push the barricades down." For that to occur, it's crucial that the brightest and best women not become discouraged. As White puts it, "If you're going to be in the forefront of a revolution, you have to keep taking the flak until it's won." F

FIVE MAGIC WORDS: 'GIVE ME A BIGGER CHALLENGE'

Ten years ago Jill Barad, then a junior manager in the boys' toys division at Mattel, went to Tom Kalinske, the senior vice president who had hired her, and said, "Okay, I'm ready now. Give me a bigger challenge." His reply: "I was waiting for you to say that." He assigned her to Barbie dolls. In 1988, the year Barad took over that business, sales hovered around $485 million. The figure has since more than doubled to nearly $1 billion. Mattel's earnings over that time proved as resilient as Barbie's curls, springing from a $113 million loss in 1987 to a $113 million profit last year.

President and chief operating officer since mid-July, Barad never expected to end up the reigning diva of toydom. Raised in New York City, she graduated from Queens College and, perhaps because her father was television director Lawrence Elikann (*Falcon Crest, Knots Landing*), aspired to be an actress. A single day in front of the cameras in a 1973 Dino De Laurentiis film called *Crazy Joe* changed her mind. She moved to California and worked for a cosmetics maker and an ad agency before joining Mattel.

Among her first projects at the company: an icky toy called A Bad Case of Worms. Designed to be slammed against a wall, whence it would slither slimily to the floor, the thing was aptly named—and has since disappeared. "I think everyone thought I managed *out* of that well," says Barad. Ten promotions later, she runs a staff of more than 1,000 worldwide but relies too on the judgment of sons Alexander, 12, and Justin, 9—with now and then a comment from husband Thomas Barad, an independent film producer.

Mattel's Jill Barad is the diva of toydom.

Pleasing little customers can yield big money. When Barad signed on with Mattel in 1981, she earned $38,000 a year. In 1991, as head of operations for North America, she had a pay package that came to $711,539. Not too shabby a decade. "We all have to get the best people we can get," she says. "And you won't get the best people if they don't feel they'll have a chance to rise." Some of the best people won't ever know the chance is there or not—unless, as Barad did, they *ask* for it.

BRACE FOR JAPAN'S HOT NEW STRATEGY

After a mighty effort, top U.S. companies are closing the quality gap. But their toughest rivals—guess who?—have moved on to *flexibility.* It's catch-up time again. ■ *by Thomas A. Stewart*

THERE'S the good news: American business's campaign to improve quality is paying off so well that in many areas the Japanese no longer enjoy a clear lead. Now the bad news: While the quality gap narrows, the world's best competitors are suiting up for an even more challenging contest. It's called flexibility, and its watchwords are change fast, keep costs low, and respond quickly to customers. In the race between the U.S. and Japan, guess who's ahead. Says Aleda Roth, a manufacturing expert at Duke University's business school: "Most American companies are a generation behind—as far behind as they were on quality."

The theory behind flexibility is simple. If you and I are competing and I can read the market quicker, manufacture many different products on the same line, switch from one to another instantly and at low cost, make as much profit on short runs as on long ones, and bring out new offerings faster than you—or do most of these things—then I win. I can parry your every thrust, attack niches in your market that you're too bulky to squeeze into, improve faster, and maintain or even fatten profits while forcing you to follow my lead on prices.

Manufacturers and service companies alike will have to play the game to prosper. Many manufacturers will have to install a sophisticated battery of machine tools called a flexible manufacturing system (FMS), which in a single factory turns out immense varieties of product with computer-controlled robots. All companies will have to overhaul their information systems, methods of developing new products, and other techniques to respond to customers in a quick, versatile, and economical way.

To see flexibility in action, look east. That's the message of a revealing study released in July by Deloitte & Touche consultants. They asked 900 U.S. and Japanese companies to describe their key manufacturing strategies. Among the findings:

■ **The Japanese stress flexibility.** While American manufacturers emphasize product quality (durability, conformance to specifications, and on-time delivery), the Japanese take those as a given. Their focus: more and better product features, flexible factories, expanded customer service, and rapid outpourings of new products.

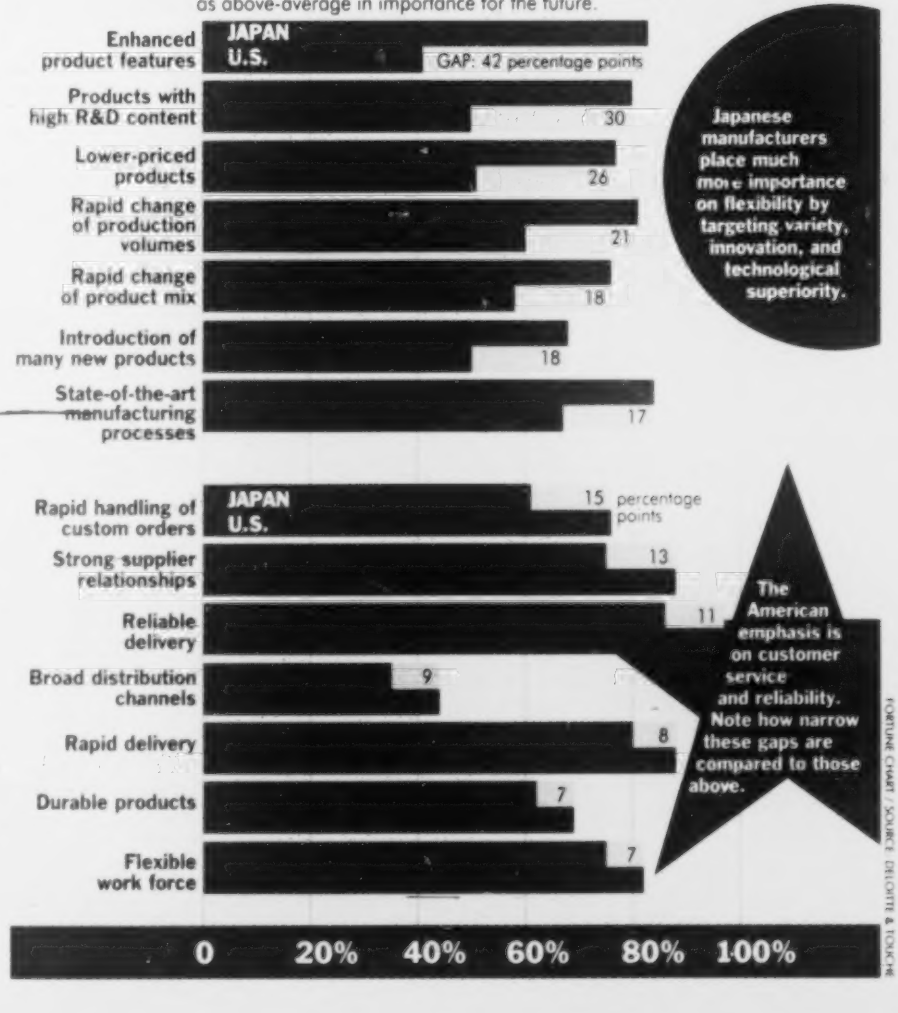
■ **They rate themselves ahead in nearly all aspects of the game,** including rapid changes in production methods and the number of new products they can create. That advantage will grow: Japanese manufacturers are about a third more likely than Americans to say increased flexibility figures importantly in their plans.

■ **They are committed to staying ahead through advanced technology.** From a list of 38 technologies, such as computer-aided design, automated material handling, and robotics, Deloitte & Touche turned up just six in which Americans claimed more experience. Looking toward the future, Japanese companies are 25% more likely to emphasize leading-edge manufacturing, and have bigger investment plans for 33 of 42 advanced techniques.

Eventually, flexibility means dramatically changing one's ideas about how to run a business. In a visionary study that drew on people from 77 U.S. companies, the Iacocca Institute of Lehigh University concluded, "We stand at the threshold of a new era in manufacturing." Beyond mass and lean production beckons "agile production," where factories are small and modular and machinery is reprogrammable to make an almost infinite variety of new or customized goods at low unit cost. Says the institute's operations director, Roger Nagel: "Whatever you thought your break-

FLEXIBILITY RANKS HIGH IN JAPAN'S MANUFACTURING STRATEGY, BUT NOT IN AMERICA'S

Bars show percent of manufacturers who rate a strategy as above-average in importance for the future.



FORTUNE CHART / SOURCE: DELOITTE & TOUCHE

Look closely: Three different cars—a Lexus (center) and two Camrys—move down Toyota's line.

PHOTOGRAPHS BY PETER SIBBALD

Kao serves 280,000 stores with customized crates of goods. A sign tells which product a single production line turns out each day.

even could be, that figure can be a lot smaller today—usually less than half." In an age of demanding consumers, mass production won't cut it.

MANY top-flight U.S. companies are working hard to develop these abilities—Figgie International, General Electric, and Motorola, for example. Baxter Healthcare is testing the ultimate in modularity—an intravenous solutions factory that can be shipped anywhere, set up in a week, and moved anytime—and considers itself one of the world's standard-bearers in a mind-boggling technology called "rapid prototyping." In Deerfield, Illinois, Baxter routinely makes working prototypes of complex medical instruments for its Belgian design center, shipping them just 24 hours after receiving the specs.

As a group, however, the Americans are no match for their transpacific rivals. The Japanese have invested in flexibility for the better part of a decade, but it's only now becoming clear how strong a weapon it is. Says MIT professor Charles Sabel: "The strategy is becoming more and more explicit—to make progress by splitting markets. The goal is a totally plastic production system, one that—within some reasonable area—allows a factory to turn out anything." Even more exciting (or alarming, depending on whose ox is gored), some manufacturers—Toyota, for one—have begun to learn about flexibility what they taught the world about quality: It can actually save money.

Japan's flexibility drive was fueled by a boom in capital spending—$3 trillion in domestic plant and equipment from 1986 to 1991, says Kenneth Courtis, senior economist of Deutsche Bank in Tokyo. Though Japanese investment leveled off as the economy slowed, private industry bought new plant and equipment worth $5,320 a person in Japan last year, vs. $2,177 in America. Those figures are adjusted to reflect the fact that Japan's capital-equipment market is so competitive that prices are 30% lower than in the U.S.

No one knows how much of that money went into flexibility, because investments can serve more than one end. But an analysis by Taka Ananuma of the Tokyo office of the A.T. Kearney consulting firm shows that in one area—spending for information technology—three out of four manufacturers cited as one of their aims flexibility enhancement through such means as FMS and computer-integrated manufacturing, almost twice the number naming the next-leading purpose (office automation).

FLEXIBILITY is an explicit goal at Toshiba, whose $35.5 billion in sales last year came from products as diverse as appliances and computers, light bulbs and power plants. Okay, so the slogan "synchronize production in proportion to customer demand" probably made few hearts leap when Toshiba workers first heard it in 1985. The idea, explains Toshiba President Fumio Sato, is to push Toshiba's two dozen factories to adapt faster to markets. Says Sato: "Customers wanted choices. They wanted a washing machine or a TV set that was precisely right for their needs. We needed variety, not mass production."

Sato hammered home his theme in an almost nonstop series of factory visits. The key to variety: finding ways to make money from ever shorter production runs. Sato urged managers to reduce setup times, shrink lead time, and learn to make more products with the same equipment and people. He says: "Every time I go to a plant I tell the people, 'Smaller lot!' "

If that's your creed, says Lester Thurow, dean of the Sloan School of Management at MIT, a visit to Toshiba's computer factory in Ome, 30 miles from downtown Tokyo, "is like being in heaven." Toshiba calls Ome an "intelligent works" because a snazzy computer network links office, engineering, and factory operations, providing just-in-time information as well as just-in-time parts. Ome workers assemble nine different word processors on the same line and, on an adjacent one, 20 varieties of laptop computers. Usually they make a batch of 20 before changing models, but Toshiba can afford lot sizes as small as ten.

Workers on the lines have been trained to make each model but don't need to rely on memory. A laptop at every post displays a drawing and instructions, which change when the model does. Product life cycles for low-end computers are measured in months these days, so the flexible lines allow the company to guard against running short of a hot model or overproducing one whose sales have slowed. Sato's next goal: to get managers thinking about how to ship small lots fast and cheaply, with quicker feedback from stores, so sales and distribution are as flexible as the factories.

continued

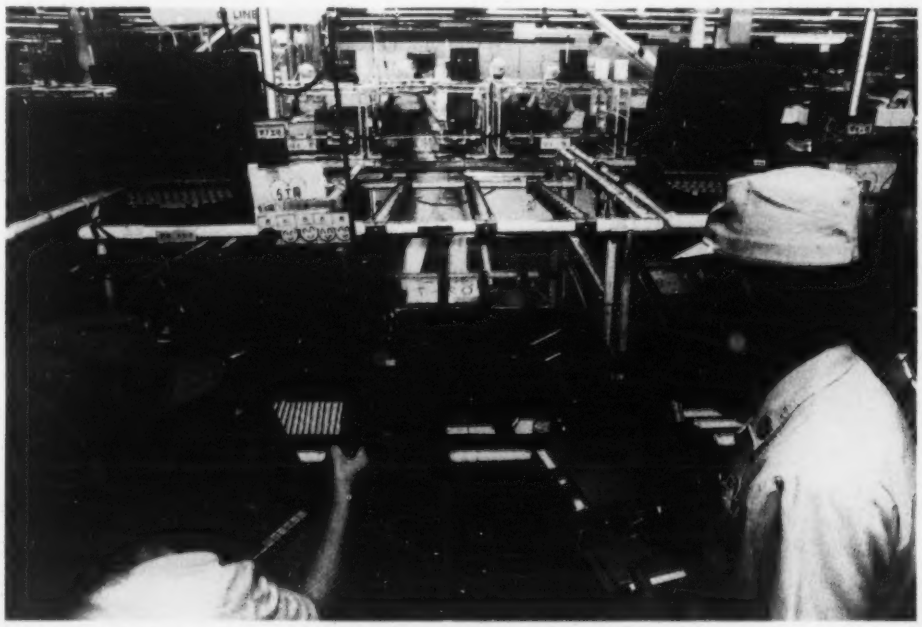
REPORTER ASSOCIATES *Emily Thornton and Andrew Erdman*

He could do worse than check out Kao Corp., Japan's biggest soap and cosmetics company and the sixth largest in the world, with 1991 sales of $4.7 billion. James Abegglen, chairman of Gemini Consulting (Japan), says no company can match the flexibility of Kao's distribution. It derives from a stunning information system that allows the company and its wholly owned wholesalers to deliver goods within 24 hours to any of 280,000 shops, whose average order is for just seven items.

THE GOAL at Kao isn't flexible manufacturing per se. Rather, says Masayuki Abe, a systems development manager, "the purpose is to maximize the flexibility of the whole company's response to demand." That's done by collecting and distributing data with an Orwellian obsessiveness—ten gigabytes of it at any one time, enough to fill 128,000 pages of text. One system links everything: sales and shipping, production and purchasing, accounting, R&D, marketing, hundreds of shopkeepers' cash registers, thousands of salesmen's hand-held computers. According to Abegglen, Kao boasts that the information is so complete that its accountants can turn out a year-end closing statement by noon of the first day of the new year.

Some American consumer products companies collect point-of-sale data—executives may receive information on the previous day's sales, for example—but at Kao the split-second linkage extends back to the factories and labs as well. Brand managers see daily sales, stock, and production figures. Within a day they can learn if a competitor is running a sale, and adjust accordingly. When Kao brings out a new product, it melds point-of-sale information from 216 retailers with a test-marketing operation called the Echo System, which uses focus groups and consumers' calls and letters to gauge public response faster than market surveys do. Says William Best of A.T. Kearney's Tokyo office: "Kao can know if a product will be successful within two weeks of launch. They know who's buying it, whether the packaging works, whether to change anything." That helps explain how Kao stormed into the highly profitable cosmetics business, going from nowhere to No. 2 in Japanese market share in less than ten years.

Kao's network virtually eliminates the lag between an event in the market (Ms. Watanabe buys a bar of soap) and the arrival of the news at the company. That makes Kao less dependent on sales forecasts and buffer inventory. As George Stalk of the Boston Consulting Group, an expert on Japanese corporations, has shown, speedy information lets a company even out production levels and increase variety without drowning in stock; indeed, though Kao makes 564 household products today, vs. 498 in 1987, average inventory as a percent of sales is down to 8.6% from 9.2%.



Toshiba workers can make laptop and desktop computers on one line. The screens show instructions.

As Toshiba and Kao demonstrate, flexibility comes when information feeds the ability to exploit it. A flexible factory is useless if you don't know what's selling, and it doesn't help to know the market cold if you can't react to it back in the plant.

The plunging cost of computing power, combined with low-cost capital, put flexibility within reach even of second-tier companies in Japan. Take Fuji Electric, Japan's fourth-largest maker of electrical machinery (after Hitachi, Toshiba, and Mitsubishi Electric). Fuji's investment in FMS and the like soared starting in 1987—the effort consumes 30% of the capital budget—as come-hither prices for computers and numerically controlled machine tools coincided with cheap money. Says Takashi Kurihara, senior engineer for production technology: "We set a target of reducing lead time 30%, labor costs 70%, and work-in-process inventory 50%. We had to, because these are our customers' goals too."

When Fuji gets an order for an electric motor switch, 20% of the time the buyer wants—and gets—24-hour delivery. Another 40% must arrive within two days. Fuji didn't narrow its product line: Those schedules are for customized work.

The thanks go to flexible manufacturing. For example, at its plant in Saitama prefecture, Fuji makes magnetic contactors used to control motors in machine tools. Beginning in 1988, Fuji installed flexible, computer-integrated lines where setup, parts selection, and assembly are all automated using bar codes that tell the machines what to do. Before those lines, Fuji filled orders in three days. Now Fuji needs 24 hours, using one-third as many workers and almost one-third less inventory—making about 8,000 varieties, three times more than before.

Investment in flexibility isn't cheap, but over time it can save money. That's counterintuitive for managers raised to seek economies of scale. Flexibility offers economies of scope—the ability to spread costs across many products. Frank Andrusko, vice president of Amoco Fabrics & Fibers, has seen the contrast. His company and Nisseki Plastics, a Nippon Oil subsidiary, are partners in a joint venture to make nonwoven fabric used to strengthen foil and paper packaging. "We like long runs," he says. "We use the same equipment, but they make very short runs at higher cost, with more differentiation that lets them get a higher price." The two also approach cus-

With prefabricated units, Baxter Healthcare quickly built an experimental factory in British Columbia.

tomers differently: "Their salespeople don't carry data sheets describing what's available. They ask, 'What do *you* want?' then make it. They need more people in research than we do."

Scale will always matter, but economies of scope have awesome, and sometimes superior, power. Explains Joel Goldhar, a professor at the Illinois Institute of Technology business school: "Compared with a million-unit factory, a two-million-unit factory will always be more economical. But a factory that makes 10,000 units of 200 different products can be just as economical—and with customization you can get unique products, which means monopoly prices."

In a flexible factory, scale and scope reinforce each other. No more vivid example exists than the auto industry. Japanese carmakers are rebuilding the heart of their factories to become even more versatile and labor-efficient—an effort that could once again give them fundamental cost advantages and protect their lead in the time and cost of bringing new cars to market.

Both Toyota and Nissan have zeroed in on the body assembly process, the stage where the separate stampings that make up underbody, side panels, cowl, and roof are welded together. This "body in white" is then rustproofed, painted, and sent to final assembly, where the engine, seats, and controls go in. Body assembly is the least flexible stage of production and therefore the point of greatest leverage; it is also a big user of time and money in model changes. For example, Ford shut two truck plants for the summer to retool for new models.

While many American auto plants still devote a production line to a single model, Toyota began installing flexible lines in the mid-Eighties. Toyota director Mikio Kitano, a bearded, voluble production engineer, says there is no theoretical limit to how many body types these lines can handle, "but four is good enough." Counting sunroofs and other options, that might mean 20 variations. The secret: "intelligent pallets," computer-controlled fixtures each programmed to hold the panels for a different model. The pallets work in rotation, picking up parts for various models as they come down the line and holding them together to be tack-welded by robots. A line can weld a Camry one minute, a Lexus the next, then a Crown, with no pause.

Setting up for a new model takes half the man-hours it used to, just four months—vs. nine of old—while the line continues to manufacture other cars; when all is ready, only one shift is needed to get a new model rolling with the others. As these lines went in, Toyota's capacity utilization climbed steadily, from 75% in 1982 to 95% today. The main reason, says Kitano: the one-shift model change.

Nissan's high-tech Intelligent Body Assembly System, or IBAS, accomplishes the same thing, though its ultimate ambition is more vaulting. Japan's No. 2 carmaker installed its first IBAS in Tochigi, north of Tokyo, in 1989; now it's in place at three other factories in Japan and in Smyrna, Tennessee. The heart of the IBAS is a cluster of 51 robots that grasp body parts, line them up to an accuracy within 0.1 millimeter, weld them, and inspect them, all in 46 seconds. In principle, they can be of any kind; on average, Nissan builds three models in each IBAS, some with several body types.

IT TAKES three months to prepare a Nissan factory for a new model (it used to take 12), mostly to program robots and set up peripheral operations while the line keeps running. Says Yoshitada Sekine, engineering general manager at Nissan's plant at Zama, near Yokohama: "It will one day be possible for data created in Japan to be transmitted by phone or satellite and begin production of a new model simultaneously in any plant in the world."

Nissan describes its strategy as "five anys": to make anything in any volume anywhere at any time by anybody. IBAS is a big step toward the goal, says Sekine: "Minimum economic scale is now linked to the total output of a plant, not the individual model." That is, an IBAS can handle about 20,000 cars a month, but it doesn't much matter which models use the capacity. As U.S. automakers think about dropping whole car lines, Nissan is gearing up to fill market niches with *more* lines.

A month later, it was making IV fluids.

In 1981, Honda, its supremacy in motorcycles challenged by Yamaha, countered by introducing 113 new or revamped models in just 18 months. Yamaha cried uncle after managing 37 changes, announcing it was content to be No. 2. Will a similar "variety war" break out in cars? Says George Stalk of BCG: "I don't

think they can stop. The war's destroying Saab, Renault, and Volvo. For GM and Ford, it's come down to new products—if they blink, they're gone."

THE MINISTRY of International Trade and Industry (MITI) has prodded Japan's carmakers to slow their model changes. With all Asia before them like a ripening honeydew, why risk worse political heat in the U.S. and Europe? But model changes mean less as more cars are built to customer specifications. And history suggests that the Big Three ought not to count on their rivals' forbearance.

Even without a variety war, the Japanese will gain immensely from flexibility. The new lines cost more to build (10% more at Toyota, 20% at Nissan), but a single model change pays more than the difference due to lower tooling and other costs. Toyota claims a 60% saving compared with its old lines. Greater capacity utilization has saved Toyota the cost of building five production lines, and the company predicts that the number of workers on the body lines will fall 30% by 1994 from its level in 1986. By then, Toyota says, total savings will top half a billion dollars.

When it comes to hardware for flexible manufacturing, the Japanese lead is, if anything, widening. Okuma Corp., which makes the world's broadest machine-tool product line in two factories in the hills outside Nagoya, sells 14 flexible manufacturing systems in Japan for every one it exports to America. Though U.S. purchases of industrial robots are at record highs, Japan has already installed 390,000 to America's 45,000, according to Donald Vincent, executive vice president of the Robotic Industries Association. Brian Carlisle, CEO of California robot maker Adept Technology, says this represents a 15- to 20-year lead unless the U.S pace picks up dramatically.

It doesn't help to know the market cold if you can't react to it back in the plant.

Eric Mittelstadt, CEO of GMFanuc Robotics, a U.S.-Japanese joint venture that makes robots, says that when American companies automate, they tend to favor fancy, special-purpose lines to speed mass production rather than flexible systems or inexpensive robots that can be configured to serve many purposes. The $40 billion that GM spent on automation in the 1980s is a classic example but not unique. It took a major effort by managers and employees at GE Appliances in Kentucky to coax versatility out of inflexible labor-saving equipment bought a decade ago.

Just having the right equipment isn't enough, though; more important is how you use it. Six years ago Harvard business school professor Ramchandran Jaikumar reported that the typical American company with an FMS used it to turn out ten different items. Japanese companies 93. Says George Stalk: "We're still seeing that in spades. If you spend $700,000 on a big machining center, the factory manager wants to get his utilization rate up. So he uses it for his highest-volume products, defeating the purpose of the investment."

"For GM and Ford, it's come down to new products—if they blink, they're gone."

That wouldn't happen if U.S. companies saw flexibility as a strategic asset. Most don't, says Eric Mittelstadt, the robot maker: "Few of our customers have thought this through. They usually have a specific project in mind, like a model change, rather than a plan to use robotics to make the whole process flexible."

For a flexible manufacturer, the focus of competition begins to shift. Capital spending matters less when a factory can change its product line by upgrading and reprogramming existing equipment rather than by replacing it: Witness the 60% drop in the cost of tooling up for a new model on Toyota's body assembly lines. The savings show up in lower prices or enhanced features, or can be directed upstream to R&D and downstream to customer service.

Japanese companies surveyed by Deloitte & Touche plan to emphasize both lower-priced products and those with high R&D content—a formidable pairing. Hitachi, Toshiba, Fujitsu, Canon, and others now spend more in R&D than on plant and equipment. They can afford to because of flexible factories, says Fumio Kodama, professor of innovation policy at Saitama University near Tokyo: "The introduction of FMS has paradoxically brought about the situation in which we will not have to worry about manufacturing anymore." Follow the money, economist Courtis says: "The objective of the unprecedented level of investment in innovation and R&D is clearly to become the world's new-product laboratory—the role the U.S. had in the Fifties and Sixties."

Can America catch up? Absolutely, say Craig Giffi, Gregory Seal, and Douglas Shinsato, who conducted the Deloitte & Touche study. And now's the time. They say manufacturing follows an unavoidable progression from product quality (doing it right) through reliability (always doing it right) and only then to flexibility—adding variety and speed.

Many U.S. companies can take that step. Says Adept Technology's Carlisle: "We spent the Eighties on the basics—inventory management, quality control, reducing bureaucracy—stuff the Japanese did in the Sixties and Seventies. Most of that is out of the way now."

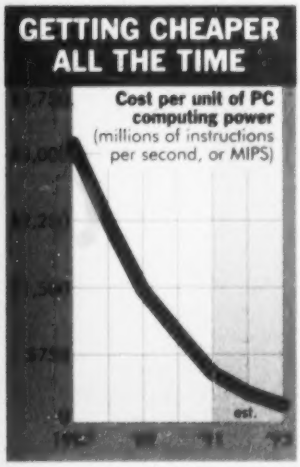
Just in time, as a window of opportunity opens. Fortunately for their competitors, Japanese companies have pushed the pause button as their economy struggles and industry adjusts to a post-bubble financial market. Also, says Paul-Josef Lantz of Baring Securities in Tokyo, the flexibility of Japan's industry has overwhelmed its transportation network. Just-in-time deliveries of ever smaller quantities of ever more goods have clogged roads, forcing some companies to curtail variety proliferation. In response, the Ministry of Transport says it will spend more than $3 trillion in the next ten years on automated distribution centers and rail, harbor, and road improvements—encouraged by the U.S. government in the mysterious belief that the investment will help America compete. (At least it isn't corporate investment, the theory goes, and U.S. contractors might win some business.) When Japan catches its breath, its companies will roar back.

To exploit this fleeting moment American companies must acknowledge that quality is just a start. The flexibility wars are coming. It's not hard to know you're in one, says Eric Mittelstadt: "You see your competitor making lots more products, but he's still meeting you on price, and he's still making a profit, and he's starting to beat you on the content—to get a technology lead—because he can make changes quicker." If that's happening to you—or could—you'd better get going.

WHO'S WINNING THE PC PRICE WARS?

The customer is, but the smaller clonemakers are bleeding. A two-tier market has emerged—high-tech hot stuff at one end, look-alike commodity PCs at the other. ■ *by Andrew Kupfer*

IT'S A WAR you've got to love—if you're a spreadsheet demon, an electronic scribe, or a Dungeons & Dragons nut. Price slashing in the personal computer business—already brutal—turned downright savage in June when Compaq dropped prices as much as 32% and rolled out a new line of machines for under $1,000. Dell Computer, AST Research, and others quickly fired off answering salvos of cuts. Result: In a year when PC prices were expected to fall by 25% or so, they were down 35%, with 1992 barely half over. And the industry behemoth, IBM, hasn't really weighed in yet.



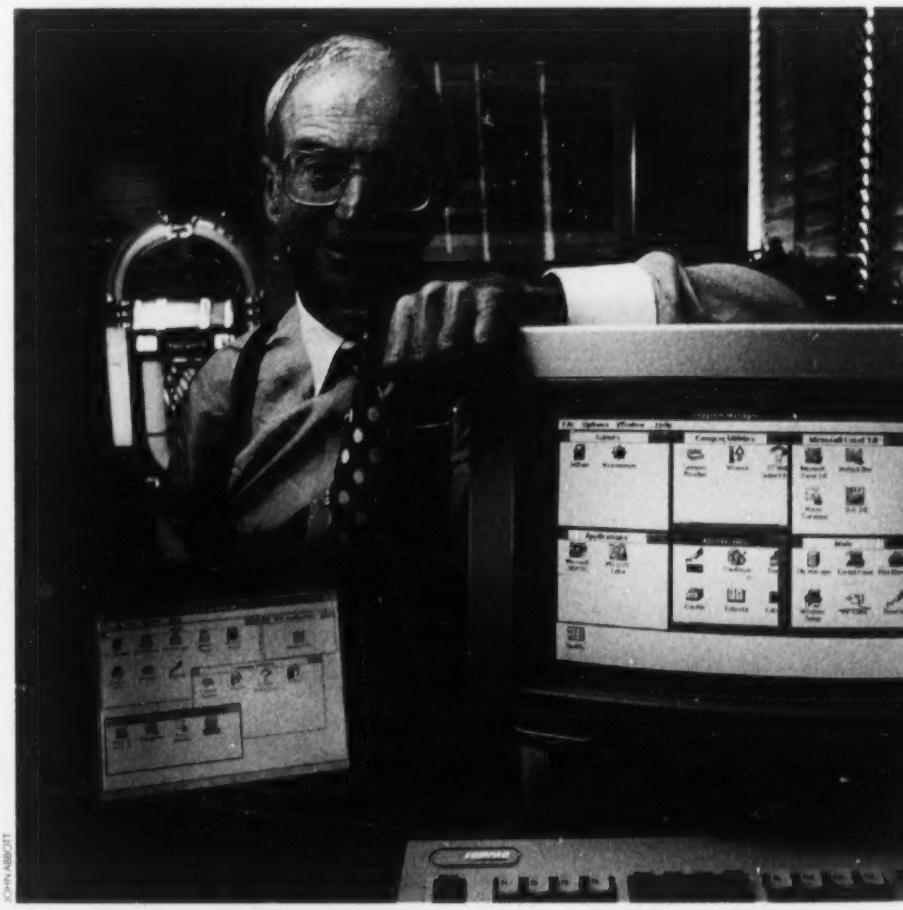
Many companies are hurting. Well-regarded smaller computer makers—Packard Bell, Zeos, Everex, and Northgate among them—have reported losses or scrapped plans to go public. "It's like watching a bunch of guys bleeding to death," says Richard Shaffer, a principal of Technologic Partners in New York City, a computer newsletter publisher. For the folks who own, run, or invest in computer companies, times are scary. They are all asking the same big questions: How did it happen? How far will it go?

The pessimists fear that because PCs are virtually a commodity, sold by units of speed or memory like so many pounds of oats, the business will come to resemble the airline industry—profits minimal or nil, price wars and bankruptcies the order of the day, stocks in a death spiral. The optimists, however, make a strong case that the better analogy is to pharmaceuticals, an industry where innovators collect premiums for new products that become lower-margin generics over time.

The last technical breakthroughs for the airlines were the jet engine in 1952 and the jumbo jet in 1969. By contrast, innovation goes on continually at the high end of the PC market in machines aimed mainly at corporate buyers. Over time prices come trickling down, and eventually the technology replenishes the low end. The PC business is in fact a hybrid, two-tier industry; only the products at the low end behave like commodities.

In any case, the price cuts aren't the whole story. With all the news, you'd think people would be paying less for new computers. Guess again. While every model is getting cheaper, not all consumers are pocketing the savings; many are buying big-

Compaq Chairman Ben Rosen set off the latest round of cuts. A big question: How will IBM respond?


JOHN ABBOTT

ger, better, and more expensive machines. Dell says that revenue per order is up 10% since it reduced its prices in June.

Who is likeliest to survive a shakeout? Technological leaps give established computer companies like IBM, Compaq, Dell, and AST an advantage over the smaller clonemakers, albeit a fleeting one. Because they design their own machines, the big names can incorporate a new technology as soon as it is introduced and thereby differentiate their products at once. Clonemakers have to wait until they can buy the new stuff off the shelf—say, from component makers in Taiwan.

Those same four companies will have a head start when Intel introduces its next microprocessor, the P5, known around the industry as the 586. This next-generation chip will be more than a bit faster than its predecessor, the 486. The P5 will compute five times as much information per second as the original 486. As they did with previous generations of chips, the computer makers took on the role of co-developer, helping Intel test the P5 on working machines. In return they have first crack at the supply when the chip goes into production in the first quarter of next year. So the P5 won't be a commodity for a while.

The promise of lucrative payoffs to come gives big and small players alike plenty of reason to do battle. But the big ones probably won't push the price war much further. Compaq is swamped with orders for its inexpensive ProLinea machine and will need months to work through the backlog. The company claims to have won back 90 corporate clients since mid-June. Dell has been running at 1½ shifts. CEO Michael Dell says, "We've got all the demand we can handle. If we took a pricing action now, our growth rate would be silly." That suggests prices will return to a more orderly descent.

EVEN IF PRICING ORDER is restored, the new machines signal that the PC industry has changed forever. The war has spilled into a new theater of operations: the home front. The Sanford C. Bernstein brokerage firm estimates that by 1996 the number of PCs in American homes will grow by over 25% to 15 million.

Picking the winners out of this roiling sea won't be easy, and investors had better have cast-iron stomachs. Analyst Michael Kwatinetz of Sanford C. Bernstein recommends only AST and Dell, because of their low operating costs and superior service. In August, Dell reported its best quarter ever: Earnings rose 77% to $22 million and sales more than doubled to $457 million. Shaffer of Technologic Partners thinks Compaq bears close attention. It could be a bargain if its strategy works quickly, because, he says, "nobody on Wall Street thinks they're going to pull it off"—at least not right away. Cautious investors may just want to sit this war out. The rest of the year is likely to be unpleasant as margins come under continuing pressure.

The price war was set off by an unlikely combatant. Till its June announcement, Compaq had acted like a racy Jaguar to IBM's stuffy Rolls-Royce, playing up performance and never undercutting anybody's price except Big Blue's. Still, the biggest surprise about Compaq's move is why so astute a man as Chairman Ben Rosen took so long to react to the changing market. Rosen put up the money to found Compaq in 1982 and has helped shape its success from the remove of his New York venture capital firm.

Compaq's vision faltered last year. Rosen and Chief Executive Rod Canion misjudged the economy, thinking the end of the Gulf war would bring recovery, so the company got caught with an inventory glut. Even worse was Compaq's blinkered view of the competitive landscape. "We were focused solely on IBM," admits Rosen. The company paid scant attention to the little clones that were outflanking it with lower-priced machines. Canion's reluctance to bring out a cheap clonebuster eventually caused a rift with the board, which fired him late last year and approved Rosen's plans for the ProLinea. "It would have been better to make the changes we announced in June a year earlier," says Rosen. "But our first quarter in 1991 was a good one. If it ain't broke, don't fix it." Compaq reported its first quarterly loss later in the year. It was broken after all.

Shocked by the loss, Compaq knew it had to get its prices back in line with the rest of the industry. First it had to bring down costs. The company laid off 1,700 people. More important, it changed the way it developed products. Richard Schutte, a Sanford C. Bernstein analyst, says, "With the ProLinea, for the first time Compaq designed a product with the cost of manufacturing in mind, not just raw computing power." The company also renegotiated with key suppliers, even turning down disk drives from Conner Peripherals—which Compaq helped found—to buy some drives from Quantum that cost less. In all, Schutte estimates that Compaq's operating costs will drop from 28% of revenues in 1991 to 24% by next year.

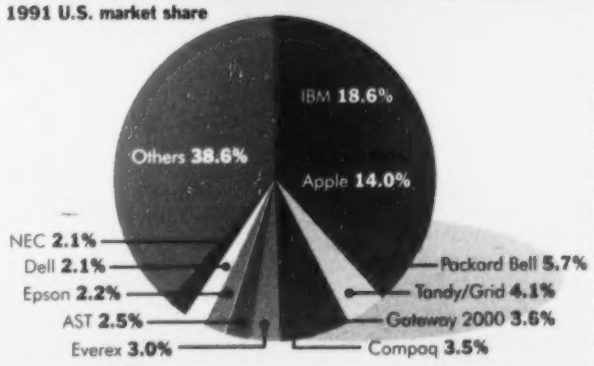
Other companies face problems that threaten to darken their screens forever. Zeos, whose highly regarded notebook computer was one of the first on the market, just announced a quarterly loss of $11 million on $49 million in revenues. Northgate tried hard to find a merger partner but in July ended up selling 51% of its stock for 4 cents a share (its high was nearly $2 in 1990). A month later the company announced a quarterly loss of $10 million on sales of $35 million.

Packard Bell, which sells in stores from Wal-Mart to Circuit City and leads all PC makers in mass merchant sales, had to withdraw its initial public offering earlier this year for lack of takers. So did Cleveland-based Cumulus Corp., whose prospectus revealed that Conner Peripherals is suing it for $2 million, claiming it failed to pay its bills. (Cumulus denies liability and counterclaims breach of contract by Conner.) Safi Quereshy, chief executive of AST Research, says, "Suppliers are being careful who they sell to." Some marginal players must pay up front. *continued*

REPORTER ASSOCIATE *Ani Hadjian*

IN A CROWDED PC MARKET, 'OTHERS' OUTSELL EVERYBODY

1991 U.S. market share



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THE DUMBEST MARKETING PLOY • SPECIAL REPORT ON ASIA'S FUTURE

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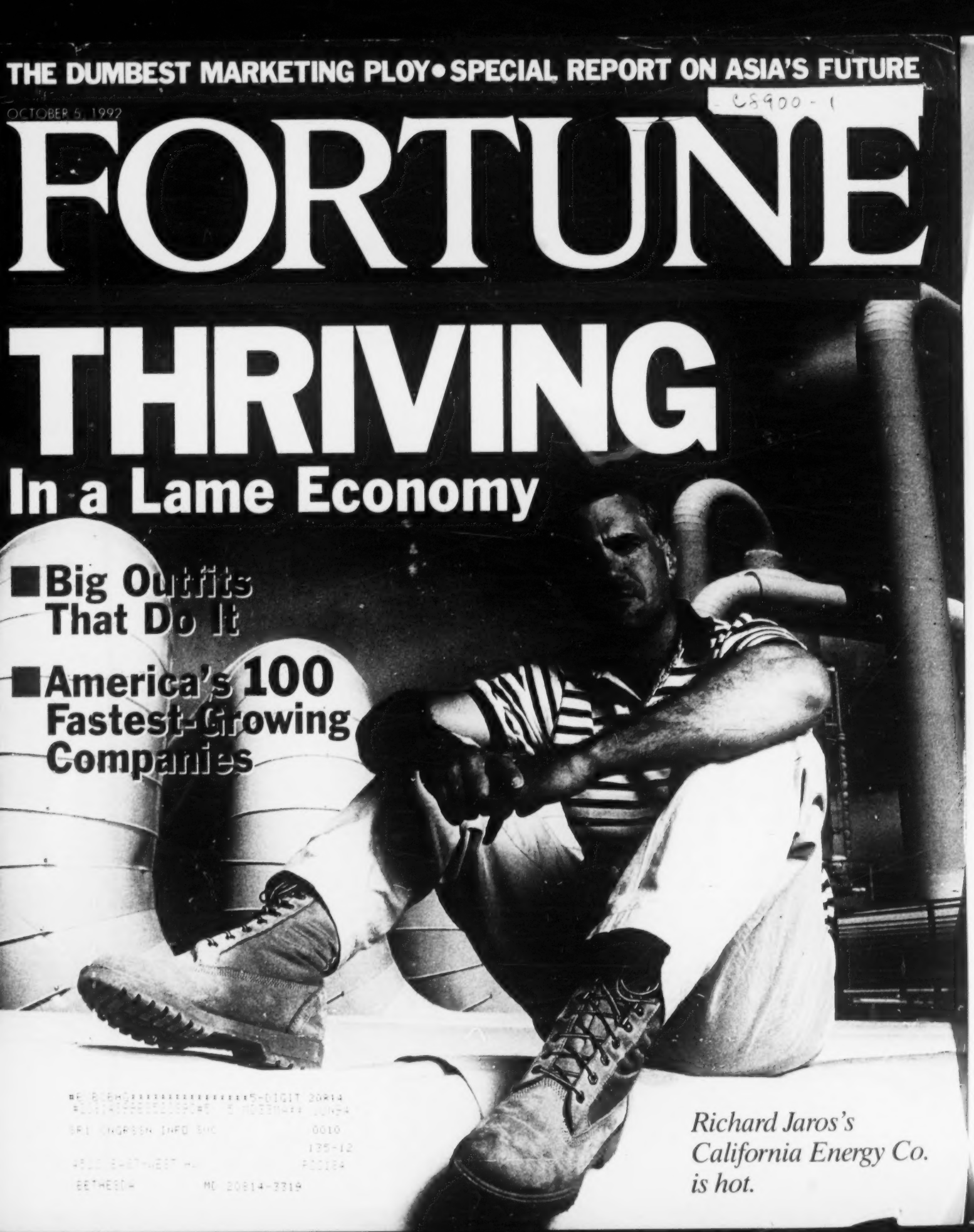
OCTOBER 5, 1992

FORTUNE

THRIVING
In a Lame Economy

- Big Outfits That Do It
- America's 100 Fastest-Growing Companies



Richard Jaros's California Energy Co. is hot.

OCTOBER 5, 1992

VOL. 126, NO. 7

FORTUNE

MANAGING/COVER STORIES

ABOVE: Rubbermaid encourages customers to buy during slow times by introducing more products. Photo by Michael L. Abramson.

COVER: Earnings rose 122% at California Energy, a leading producer of geothermal power, after Jaros was brought in to control spending. Photograph by Alan Levenson.

THRIVING IN A LAME ECONOMY 44
Resist the urge to squeeze costs and hope things improve. Companies that are prospering are finding new markets and redesigning work to serve customers better for less. *by Rahul Jacob*

AMERICA'S FASTEST-GROWING COMPANIES 58
Defying the lackluster economy, these 100 hard-chargers are creating jobs and enriching investors. Their innovative approaches offer lessons for anyone trying to run a company better. *by Alan Deutschman*

ONES THAT FELL FROM GLORY 61

"Consumers try not to shop in a slow economy. But if you give them a reason to go to the store, they will spend." 44

TECHNOLOGY

TECHNOLOGY TO WATCH 84
Amtrak is about to introduce a Swedish bullet train that can go 150 mph on track not nearly as good as Japan's or Europe's best. *by Mark Alpert*

SELLING

THE DUMBEST MARKETING PLOY 88
Companies give crazy, costly deals to coax retailers and wholesalers to load up on excess products. Why? To goose their stock. P&G and others are kicking the habit. *by Patricia Sellers*

CORPORATE PERFORMANCE

COMPANIES TO WATCH 95
The Learning Co. of California is excelling by putting money into R&D for its educational software programs. *by Richard S. Teitelbaum*

Also: Nature Food Centres of Massachusetts and Amerihost Properties.

MONEY & MARKETS

WHAT WE LEARNED FROM THE '87 CRASH 98
Five years later, nobody has a bad word to say about the cataclysm that rocked Wall Street. The market is healthier—and higher. But don't think it couldn't happen again. *by Ford S. Worthy*

POLITICS & POLICY

HOW PUBLIC OPINION REALLY WORKS 102
The public's thinking on issues progresses through seven predictable stages, the dean of American pollsters finds. Politicians make a big mistake just looking at raw numbers. *by Daniel Yankelovich*

"Working for one company is like kissing one girl in your life. It's nice, but you wonder what you're missing." 58

"People have reached the point where they won't buy unless a product is on sale." 88

"The crash was the most positive thing that could have happened to us. We call it a blessing in disguise." 98

"Sometimes a truth is so simple and obvious that it eludes detection for years." 102

"China has already passed the point of no return. China has to keep reforming." 114

"I tended to think of history as run by impersonal forces. But in practice you see the difference personalities make." 143

DEPARTMENTS

EDITOR'S DESK 4
Going after the strategies managers need in these days of slow growth.

INDEX 8

NEWS/TRENDS 10
Exporting jobs and ethics, prelude to war at GM, Big Macs as an earthly reward, Japan first again (this time in greens fees), the French mull a single Europe, the economy creates more stress, big sibbing as an MBA requirement, and more.

ECONOMIC INTELLIGENCE 17
How can government help revive long-term growth? Some economists, looking afresh at the problem, call for an investment tax credit and better training. But sound and consistent policymaking may be more important. *by Charles Burck*

PERSONAL INVESTING 21
Seeking stocks with high yields and good prospects? Look past today's dividend to the *rate* of dividend growth. *by Shelley Neumeier*

Also: A REIT to run from, regional brokers reveal their best bets, and Portfolio Talk with Don Phillips of Morningstar.

LETTERS TO FORTUNE 37

BOOKS & IDEAS 143
A lively new biography on Henry Kissinger goes beyond kiss and tell to measure the achievements and capture the complexity of America's most famous modern diplomat. *by Robert D. Hormats*

KEEPING UP 146
The blue-collar economist, poker for ex-Presidents, great decisions in marketing, bias in dinner invitations, and other matters. *by Daniel Seligman*

SPECIAL REPORT/PACIFIC RIM

ASIA 2000 111
From China's market of more than a billion potential consumers to such rising economic powers as Thailand and Indonesia, the East is emerging as a center of economic growth. Western companies have a lot to lose if they fail to gain a better understanding of how the region works. *by Louis Kraar*

CHINA REALLY IS ON THE MOVE 114
The hard-liners keep hanging on, but the numbers—double-digit growth, an unemployment rate below 3%, and exports up 16% to $72 billion—are hard for even the crustiest socialist to deny. *by Brenton R. Schlender*

A NEW CHINA WITHOUT BORDERS 124
Money and management from Taiwan and Hong Kong are transforming the south into a powerhouse. *by Louis Kraar*

WILL JAPAN RULE A NEW TRADE BLOC? 131
Market forces are rapidly pulling Asia's economies together. What's missing is the political will to forge a closer union. *by Emily Thornton*

ASIA'S HOT NEW GROWTH TRIANGLE 136
Singapore, Malaysia, and Indonesia are racing feverishly to become major exporters in the 21st century. *by Louis Kraar*

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EDITOR'S DESK

DOING WELL DESPITE TOUGH TIMES

Cover writers Alan Deutschman and Rahul Jacob examine winners.

ANYBODY CAN FLOURISH in good times, but success in times like these takes something special. That rare quality is the subject of our two cover stories. Each probes a different species of winner, revealing strategies and lessons that any manager will find useful. In "Thriving in a Lame Economy" on page 44, reporter Rahul Jacob describes how big, established companies, from Alcoa to Rubbermaid, are gaining market share by developing new products or making smart acquisitions, even by increasing their advertising in the vacuum left when cautious competitors reduce theirs. Some giant outfits are in fact changing their metabolism, reinventing their most fundamental internal processes. Says award-winning writer Jacob, formerly a business journalist in his native India: "In a difficult environment, people aren't just sitting back but are becoming more innovative and gutsy in the way they do business."

An even more spectacular breed of winner consists of publicly traded companies growing at a more than 50% annual rate, despite the lame economy. The top 100 of these superstars are ranked, and some of their secrets are examined, in "America's Fastest-Growing Companies" on page 58. Not just a better mousetrap but also better management puts the lift in these outfits. Indeed, says writer Alan Deutschman, they are "experimental labs for management ideas."

Make no mistake: When a quarter of the workers on the globe cast off their chains, as they are doing in China, it is a profoundly moving, world-transforming event. Don't miss this issue's two eye-opening stories on so momentous a development, by Tokyo bureau chief Brent Schlender and by Louis Kraar, who has spent half a long and distinguished journalistic career living in, and reporting on, Asia. These articles are only part of a 20-page special report, prepared under the direction of international editor Donald Holt, on the economic challenges and opportunities in the Pacific Rim.

Asia expert Louis Kraar travels China

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259). Published biweekly, with three issues in October, by Time Inc. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., Chairman; Don Logan, President; Joseph A. Ripp, Treasurer; Harry M. Johnston, Secretary. Subscriptions: $75 per year (27 issues); Canada, one year (27 issues) $95.76; Canada, one year (27 issues) $53.72. Second class postage paid at New York, NY, and at additional mailing offices. Authorized as second class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer service: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000. © 1992 Time Inc. All rights reserved. FORTUNE is a registered mark of Time Inc.

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AMERICA'S FASTEST-GROWING COMPANIES

Defying the lackluster economy, these 100 hard-chargers are creating jobs and enriching investors. Their innovative approaches offer lessons for anyone trying to run a company better. ■ *by Alan Deutschman*

Here's looking at you, kid: Jeff Bernstein cofounded highflying PictureTel as an MIT grad student. CEO Norman Gaut appears on the System 4000 videoconferencing setup.

LEN BOSACK and Sandy Lerner started **Cisco Systems** "without a particular business vision," says Lerner. "We had a technical vision." Working together to link up Stanford University's computers, the husband and wife team foresaw that big companies would need to do the same. So in 1984 they hatched Cisco (short for San Francisco) at the house they shared with Bosack's parents in suburban Atherton, California.

Dozens of venture capitalists turned down the chance to invest. The entrepreneurs had to borrow some $20,000 on their credit cards. They mortgaged the house. Lerner coped without a car. Just as well, since the two-car garage was filled by an old, discontinued Digital System 20 mainframe they bought for $5,000. Bosack, Lerner, and their early recruits held on to their day jobs for 18 months. For their fledgling firm, they worked late into the night.

Today Cisco employs 875 people. In the past four quarters it sold $340 million in networking systems. FORTUNE 500 companies use its devices to connect local-area networks around the world into unifying wide-area networks. The stock market values Cisco at $2.7 billion, more than Sun Microsystems, which came out of the same research group working in the same Stanford basement two years earlier.

After clashing with a seasoned CEO brought in by their financial backers, Lerner, 37, and Bosack, 40, decided to take the $170 million they had made on Cisco and start over in 1990. Their new 12-person computer company, XKL Systems, is a bike ride away from Microsoft's headquarters in the high-tech hamlet of Redmond, Washington. Lerner, a mathematician by training, knows it's improbable that they'll match Cisco's success.

But entrepreneurs thrive on fighting the odds. Look at some of the crazy long shots that made it out of the garage and on to FORTUNE's ranking of America's 100 fastest-growing companies. **PictureTel** (No. 14), the largest maker of videophones, was started by two 22-year-old MIT students soldering circuitboards in their apartment. Ma Bell had a big head start over the kids. PictureTel founders Jeffrey Bernstein and Brian Hinman, both 31, were mere toddlers when AT&T showed off a prototype Picturephone at the 1964 World's Fair. But the scrappy startup made the breakthrough that is turning the vision into reality. Its videophones now lead in the high end of the market.

Exabyte (No. 8) began when a photography buff, Harry Hinz, bought a Sony camcorder. Instead of taking home movies, he thought of using the gadget to record data—endless arrays of zeros and ones. Now Exabyte's 8-mm tape drives are the most efficient way of storing mind-boggling amounts of information.

Propelled by unstoppable ideas and passions, the fast growers take off in good times and bad. They make bigger contributions to the economy than their size alone suggests. Those on this year's list employ more than 200,000 people but have created many times that number of jobs among suppliers and customers. They also serve as experimental labs for innovative management styles, with lessons for anyone trying to run a company better.

To find the 100 fastest-growing U.S. com-

REPORTER ASSOCIATES *Sally Solo and Therese Eiben*

THE 100 FASTEST-GROWING COMPANIES

		SALES		EARNINGS		STOCK				WHAT THEY DO
		Annual growth rate 3-5 years	Last four quarters $ millions	Per share annual growth rate 100 RANK	Net last four qtrs. $ millions 100 RANK	Price 8/31/92 Year earlier	P/E last four qtrs.	Market value $ millions 100 RANK	Where traded	
1	**WELLFLEET COMMUNICATIONS**	254%	$85.1 97	—	$11.5 54	$37.75 $29.25	50	$547 29	Nasdaq	Designs and builds products to connect computers, from local installations to corporate networks that span the world.
2	**GRANCARE**	204%	$227.8 47	—	$6.7 75	$10.75 —	11	$88 81	Nasdaq	Acquires nursing homes; runs 68 in seven states, mainly California and Wisconsin. Fills prescriptions in its own pharmacies.
3	**CISCO SYSTEMS**	194%	$339.6 30	126% 4	$84.4 5	$46.88 $22.75	35	$2,728 2	Nasdaq	Specializes in complex computer networking, some global. Clients with huge systems include Boeing and Salomon Bros.
4	**COLUMBIA HOSPITAL**	173%	$613.4 18	63% 32	$19.0 38	$17.25 $12.50	17	$318 49	Nasdaq	Acquires in the Southeast; local doctors own up to 40% of each hospital. Also in home health care, outpatient therapy.
5	**PHYCOR**	173%	$109.5 84	—	$1.5 98	$9.50 —	43	$60 89	Nasdaq	Runs 12 medical clinics for primary and specialty care, mainly in the South. They handle from ten to 29 specialties.
6	**QUAL-MED**	152%	$320.8 31	92% 15	$18.2 40	$12.00 $13.38	11	$184 63	Nasdaq	Owns HMOs in six Western states, with more than 15,000 doctors; expanding via acquisitions into the Southeast.
7	**OUTBACK STEAKHOUSE**	151%	$82.6 99	115% 6	$8.5 66	$35.75 $18.38	48	$413 37	Nasdaq	Moderately priced restaurants with Aussie theme and heaping plates, mainly in Florida, Texas, and North Carolina.
8	**EXABYTE**	148%	$282.7 38	96% 12	$42.0 16	$23.25 $20.50	12	$473 34	Nasdaq	Its compact 8-mm tape drives store vast amounts of computer data, usually to back up disks. Partners supply the components.
9	**DAMON**	145%	$284.6 37	—	$10.4 58	$19.75 $20.25	29	$307 55	NYSE	A nationwide chain of clinical laboratories performing both routine and esoteric tests—hepatitis, HIV, and the like.
10	**SYNOPTICS COMMUNICATIONS**	145%	$273.3 40	75% 23	$20.9 36	$35.50 $27.50	34	$677 23	Nasdaq	A pioneer in building local area networks (LANs) for software engineering, university research, banking, and retailing.

Sales and earnings growth figures based on past three to five years depending on public availability of operating results. Earnings growth figure appears only for companies posting 12 quarters of positive earnings, otherwise there is a dash. List excludes companies engaged primarily in banking, finance, and insurance.

PHOTOGRAPHS BY ALAN LEVENSON

M.D.s had a say in designing Columbia Hospital's Corpus Christi branch.

panies. FORTUNE asked William O'Neil & Co. of Los Angeles, an investment research firm, to search its database on publicly traded firms. We weeded out those that lost money in either of the last two quarters or over the past year as a whole. Then we ranked the survivors by annual sales growth, calculated from at least three years of operating results, five when available. Finally, we picked a floor of $82 million annual sales to yield a round 100 entries. (Financial companies, for which sales figures are not relevant, were excluded.) An alphabetical index appears at the end of this article.

FORTUNE's sizzling risers are clustered mainly in computers and electronics (32), health care (27), and energy and the environment (16). Most make their home in the Sunbelt. California leads the states with 25, including 17 in the San Francisco Bay Area, attesting to Silicon Valley's continuing dynamism. Texas places with 11, Florida shows with seven. New York lags with two.

Growing markets and a favorable regulatory climate make the South and the West especially attractive to profit-seeking health care providers such as **Columbia Hospital** (No. 4). The company buys hospitals and turns the local doctors into co-owners. Launched in 1987 by Fort Worth dealmaker Richard Rainwater, 48, and lawyer Richard Scott, 39, Columbia has already become the biggest provider of health care in El Paso, Miami, and Fort Lauderdale.

Let's say you want to build one of America's fastest-growing companies, an outfit that will reach the FORTUNE 500 in a mere three years, as Compaq and **Conner Peripherals** (No. 34) did. How do you go about it? You could invent something truly original—but that isn't really necessary. "Billion-dollar computer companies didn't come up with a new thing," says Regis McKenna, the Silicon Valley marketing adviser. "Apple didn't create the mouse, or pull-down menus, or disk drives. A lot of technology is out there already. It takes imagination and market awareness to put it together in a unique way."

Often the originator of an idea is challenged by an innovative follower. Home Shopping Network was the first cable TV station dedicated to hawking merchandise. Its success attracted a horde of competitors, including powerhouses such as J.C. Penney and Kmart. It also caught the attention of Joseph Segel, 61, an entrepreneur

THE FASTEST-GROWING COMPANIES

		SALES		EARNINGS		STOCK				WHAT THEY DO
		Annual growth rate 3-5 years	Last four quarters $ millions 100 RANK	Per share annual growth rate 100 RANK	Net last four qtrs. $ millions 100 RANK	Price 8/31/92 Year earlier	P/E last four qtrs.	Market value $ millions 100 RANK	Where traded	
11	CALIFORNIA ENERGY	138%	$120.7 75	63% 31	$33.4 22	$11.88 $15.50	14	$378 44	ASE	Geothermal power; main plant in Mojave Desert sells to Southern California Edison. Holds rights to sites around the West.
12	OFFICE DEPOT	134%	$1,493.0 5	32% 54	$28.8 26	$27.13 $17.00	54	$1,549 8	NYSE	Largest office-supplies superstore chain, 271 outlets in 31 states and Canada; 5,100 items at discount. Northeast still untapped.
13	DIAGNOSTEK	134%	$304.7 34	65% 30	$14.1 47	$16.50 $23.00	26	$384 42	NYSE	Mail-order prescription drug dispensing; runs pharmacies at hospitals. Being acquired by Medco Containment Services.
14	PICTURETEL	134%	$111.4 83	—	$6.8 72	$11.50 $34.00	27	$170 66	Nasdaq	Its videophones are increasingly hot for business teleconferences. IBM plans to build its systems into future computers.
15	REPUBLIC WASTE INDUSTRIES	133%	$129.8 72	50% 40	$6.6 77	$7.13 $11.13	26	$177 65	Nasdaq	Owns or runs waste treatment, storage and disposal facilities, along with solid waste landfills, in seven states and Canada.
16	INTELLIGENT ELECTRONICS	130%	$2,414.4 1	58% 34	$35.2 19	$9.38 $10.25	10	$339 47	Nasdaq	A wholesale computer distributor that last year acquired BizMart office product superstores chain—which now sell computers.
17	MAXXAM	129%	$2,208.0 2	31% 58	$17.6 41	$24.75 $41.00	13	$215 59	ASE	Basic, basic: majority stake in Kaiser Aluminum, owns Pacific Lumber. Great year for aluminum cans and premium redwood.
18	T² MEDICAL	124%	$200.5 53	44% 47	$48.3 14	$25.38 $31.50	19	$891 14	NYSE	Owns or runs 216 companies that provide home intravenous care; sells management help to small medical practices.
19	AMERICAN WASTE SERVICES	119%	$96.6 91	68% 29	$7.5 69	$2.88 $6.63	12	$53 93	NYSE	Waste disposal, other services for industrial, commercial, municipal customers in East and Midwest. Expertise in sludge.
20	SYBASE	117%	$196.9 55	—	$12.4 52	$29.50 $18.00	48	$553 27	Nasdaq	Its database software brings up-to-the-minute information to workers in global companies such as American Airlines.

who had started 17 companies, mostly small, private firms. Segel bet he could do the job better, so he founded **QVC Network** (No. 43), whose initials stand for quality, value, and convenience. P.S.: The retailing giants failed. Segel succeeded. QVC is close behind Home Shopping Network in annual sales, with $1 billion, and ahead in profits ($37 million).

Why did QVC make it? Segel realized the business was as much about entertainment as retailing, and recruited legions of celebrities to make talk show–style presentations. And rather than disorienting viewers with pitches for a hodgepodge of products, as HSN did, QVC scheduled programming in themed, hourly segments, such as "Gifts for Kids" or "Ideas for the Cook," and published a list of shows four weeks ahead.

One way for startups to steal opportunities from industry behemoths is to take a giant leap when everyone else is going step by step. Established high-tech companies aim to make new products a little faster and a bit cheaper each time around. Startups bet on breakthroughs. Exabyte developed a

THE ONES THAT FELL FROM GLORY

No question that it's tough being a star: Witness the novas from last year's roster that have flashed and faded. Zeos led the 1991 rankings with a 256% sales growth rate. But the PC clone maker was wounded in the price wars. Zeos doesn't appear on FORTUNE's new list because it lost $11 million last quarter. Royal Appliance's stock has fallen from $30 a share to $10. The company cashed in on a niche, the hand-held vacuum, but pushed too eagerly to expand its line.

Such mishaps help explain why growth stocks are unnervingly volatile: The companies are still finding their way in uncharted territory. Complicating matters, investors tend to overreact. Good news sends hopes soaring; then, when a quarter fails to meet projections, Wall Street turns on the hapless offender. **Dell Computer**'s stock fell 25% in one day last June when the company told analysts that the price wars would hurt margins. But low costs have gotten it through the shakeout with record profits.

Goaded by Wall Street to produce rising earnings, growth stars can be tempted to cook the books. Landfill operator Chambers Development counted items such as executive salaries and travel as capital investments rather than expenses. When Chambers confessed its errors and took a $27 million charge against earnings, the stock fell 63% in 24 hours.

Symantec sets a good example of conservative accounting with its "sell through" approach. The software company books as revenues only purchases by the end user. Competitors count shipments to middlemen and retailers, which could be misleading if the products are returned unsold (see Selling).

That's one reason Symantec is on our list again along with 54 of last year's hot performers, including 12 who made it into the top 20 both times. Not all comers crash.

THE FASTEST-GROWING COMPANIES

		SALES		EARNINGS		STOCK				WHAT THEY DO
		Annual growth rate 3-5 years	Last four quarters $ millions	Per share annual growth rate 100 RANK	Net last four qtrs. $ millions 100 RANK	Price 8/31/92 Year earlier	P/E last four qtrs.	Market value $ millions 100 RANK	Where traded	
21	CALLAWAY GOLF	111%	$92.0 94	—	$12.8 50	$23.25 —	13	$162 69	NYSE	"Big Bertha" oversized clubs have more than doubled sales since January 1991 introduction. Getting into Japanese market.
22	BLOCKBUSTER ENTERTAINMENT	107%	$999.7 10	75% 22	$112.0 2	$13.38 $11.50	21	$2,142 4	NYSE	Runs or franchises more than 2,000 video rental stores carrying over 5,000 titles each. In eight other countries too.
23	CIRRUS LOGIC	107%	$214.5 50	28% 65	$16.3 44	$26.13 $21.25	36	$347 46	Nasdaq	Builds advanced digital and analog/digital semiconductors for computers, telecommunications, and consumer electronics.
24	STAPLES	105%	$680.5 15	33% 53	$11.0 56	$28.75 $20.25	44	$507 32	Nasdaq	Pioneer in supermarket-style stores for small and medium-size businesses, typically selling supplies at 50% off list price.
25	COMPUCOM SYSTEMS	104%	$659.7 16	28% 64	$4.7 82	$1.69 $2.50	9	$48 94	Nasdaq	Microcomputer dealer marketing major hardware and software brands to corporations. Designs and builds network systems.
26	STARBUCKS	103%	$82.3 100	—	$3.4 90	$24.88 —	83	$316 50	Nasdaq	Buys coffee beans from around the world, roasts and brews 30 varieties in 154 West Coast, Denver, and Chicago coffee shops.
27	COVENTRY	99%	$384.3 25	—	$12.0 53	$13.88 $8.50	14	$169 67	Nasdaq	HMOs in Pittsburgh, Harrisburg, St. Louis covering more than 300,000 people, most in big companies; going after smaller fry.
28	RASTEROPS	99%	$89.2 95	97% 11	$7.2 86	$10.00 $25.25	14	$56 90	Nasdaq	Computer color graphics systems mainly for printing and publishing; also used in medical imaging, architecture, meteorology.
29	AMGEN	93%	$873.7 12	—	$244.3 1	$63.38 $53.25	39	$8,357 1	Nasdaq	Biotech company with focus on blood cells, skin growth, cancer treatment. Winning blood-treating drugs: Epogen and Neupogen.
30	LDDS COMMUNICATIONS	93%	$341.1 29	90% 16	$23.2 31	$30.75 $27.50	20	$441 36	Nasdaq	Provides WATS, 800 lines, other long distance services in South and Midwest. Leases transmission lines, spends to acquire.

tape drive with 12½ times the capacity of competing drives.

Startups have the fearlessness—or recklessness—needed for leapfrogging innovation. "No big company had the gumption to do what we did," says PictureTel CEO Norman Gaut, 55. "Nobody had the guts but us." But visionaries suffer for their boldness. "At first," he says, "no venture capitalist would touch us because this was an unproven product in an unproven marketplace." From Exabyte's scenic lookout in Boulder, Colorado, CEO Peter Behrendt enlarges on the theme: "When we started, half the world said, 'Who the hell needs it?' The other half said, 'It won't work.' People thought there must not be enough oxygen in Boulder."

In industries filled with entrenched giants, newcomers have a big advantage: They draw on a clean slate. "An established company's major goal is to defend what it did last year. That's the fatal flaw," says Robert Epstein, 40, who cofounded **Sybase** (No. 20) in 1984. The company seized the opportunity to create software for the onslaught of computer networking. "It didn't seem like rocket science that there would be a major change," he says. So why didn't big computer firms see the networking trend coming? Says Cisco co-founder Len Bosack: "They believed their own lies."

Small companies constitute the first line of attack in the battle of innovation. These foot soldiers forge ahead into treacherous new markets. Eighty-seven computer makers worldwide stamp their brands on drives bought from Exabyte. In Japan, NEC sells Cisco routers under its own name. Cisco chief John Morgridge, 59, calls this "impregnating the technology in other people's products." But it's the studs who get to prance in the hay. Cisco's net profit margins are an impressive 25%.

Big companies rely more and more on innovations hatched by startups. To make sure they'll have access to the new technologies, they've stooped to forming strategic partnerships with industry infants. In turn, alliances enable the up-and-comers to focus on areas where they add value and derive a competitive edge. Otherwise they could get overwhelmed by their fast growth, as so many entrepreneurial companies do.

Exabyte limits its manufacturing roles to final assembly, testing, and customization, relying mainly on three partners for the rest. Sony provides the mechanisms for the tape drives. Solectron, a Baldrige Award winner in Silicon Valley, makes the circuitboards. Japan's Kubota, which provided a seven-figure cash infusion in 1987, builds more than half the drives, following processes and specifications set by Exabyte. Twelve patents shield Exabyte from competitors.

The Sony partnership was crucial to Exabyte's rise. In 1986 the startup approached the Japanese giant with the idea of using the camcorder's 8-mm tape mechanism to

THE FIVE BIGGEST

SALES

post four quarters ($ millions)

1	INTELLIGENT ELECTRONICS	$2,414.4
2	MAXXAM	$2,208.0
3	MERISEL	$1,855.8
4	CONNER PERIPHERALS	$1,804.2
5	OFFICE DEPOT	$1,493.0

THE FASTEST-GROWING COMPANIES

		SALES		EARNINGS		STOCK				WHAT THEY DO
		Annual growth rate 3-5 years	Last four quarters $ millions 100 RANK	Per share annual growth rate 100 RANK	Net last four qtrs. $ millions 100 RANK	Price 8/31/92 Year earlier	P/E last four qtrs.	Market value $ millions 100 RANK	Where traded	
31	ENERGY VENTURES	91%	$179.0 59	93% 14	$4.0 87	$11.50 $17.00	34	$138 75	Nasdaq	Makes pipes, pumps, other oil-drilling equipment, operates shallow-water barge rigs. Overseas business is growing fast.
32	MATRIX SERVICE	91%	$123.1 73	88% 17	$9.2 62	$15.00 $27.75	16	$141 73	Nasdaq	Builds and maintains storage tanks for oil and petrochemical majors; tougher environmental rules are spurring demand.
33	OXFORD HEALTH PLANS	91%	$120.9 74	—	$5.6 80	$29.25 $17.38	38	$215 58	Nasdaq	Managed care company with HMOs, Medicare, Medicaid plans for small and mid-size companies in metropolitan New York.
34	CONNER PERIPHERALS	90%	$1,804.2 4	55% 36	$101.3 4	$19.50 $22.50	11	$1,133 10	NYSE	Leading OEM supplier of high-performance disk drives. Has weathered falling prices with cost cutting and new business.
35	DESTEC ENERGY	90%	$424.7 21	106% 9	$82.3 6	$14.50 $20.38	11	$903 13	NYSE	Produces electricity, thermal energy, and syngas, a natural gas substitute made from coal. Runs 12 co-generation facilities.
36	CABLETRON SYSTEMS	89%	$318.0 32	123% 5	$63.4 8	$57.50 $48.38	25	$1,615 7	NYSE	Supplies local area network equipment and services to major companies, federal agencies, and universities in ten countries.
37	SYMANTEC	89%	$233.6 46	57% 35	$21.2 35	$17.00 $29.88	20	$372 45	Nasdaq	PC software, including the Norton line. Sent free antivirus programs to 250,000 customers when Michelangelo struck.
38	SCIMED LIFE SYSTEMS	89%	$193.2 56	143% 1	$33.1 23	$55.25 $83.50	25	$823 17	Nasdaq	Its balloon-tipped catheters open up clogged arteries; new products treat vascular diseases affecting legs and kidneys.
39	AMERICAN POWER CONVERSION	88%	$119.1 76	79% 20	$20.4 37	$31.75 $13.75	36	$683 22	Nasdaq	Products that keep computers and other communications equipment going when power fails; markets software and cables.
40	ADVANCED LOGIC RESEARCH	87%	$223.7 48	62% 33	$7.3 71	$4.75 $14.00	7	$53 92	Nasdaq	PCs, workstations, network servers. New marketing channels: an 800 phone number and Micro United office supply chain.

record data. Sony was open-minded enough to see that these American unknowns were onto something. Exabyte's first product was an off-the-shelf camcorder with minor modifications. No one had ever tried to turn a consumer product into a state-of-the-art computing device. Normally, technological currents slowly flow the other way.

Partnering with Kubota has helped Exabyte's cash flow markedly. Kubota buys components, builds the drives, ships them to Exabyte, and only then sends Exabyte an invoice. By that time, Exabyte has already sold the machine. And hasn't spent a penny of its own on manufacturing. No wonder the company is debt-free and holds some $70 million in cash.

Cisco doesn't have to invest much in inventory or accounts receivable either. Suppliers make all the components. Cisco assembles and tests the boxes in a room roughly the size of a basketball court. "The product is only in our hands for a week," says CEO Morgridge. Despite Cisco's reliance on vendors, its investment in intellectual capital protects against new entrants in the market—over 200 person-years of software development went into its product. But it does face competition from **Wellfleet Communications**, which started two years later. At $85 million annual sales, Wellfleet is still one-quarter Cisco's size but rising quickly. It ranks No. 1 on FORTUNE's list to Cisco's No. 3.

Getting close to their suppliers helps charge-ahead companies keep staffs small. In the late 1960s, a star called Hewlett-Packard employed 15,840 people. Today Cisco has roughly the same sales but only 875 employees. Even after adjusting for inflation, H-P had less than one-fifth the sales per employee. Morgridge, who wears a badge identifying himself as Cisco's 34th recruit, personally approves every request for hiring.

Don't let the low head counts fool you, though: These enterprises are forceful engines of job creation. Sybase can hardly hire people fast enough. It has 1,200 employees—and 100 openings. Last year Exabyte had 855 people on its own payroll. But the company figures it created 4,800 jobs—including those of partners, vendors, and customers.

One of Exabyte's most remarkable em-

IBM alumnus Peter Behrendt has led Exabyte to a Rocky Mountain high.

THE FASTEST-GROWING COMPANIES

		SALES		EARNINGS		STOCK				WHAT THEY DO
		Annual growth rate 3-5 years	Last four quarters $ millions 100 RANK	Per share annual growth rate 100 RANK	Net last four qtrs. $ millions 100 RANK	Price 8/31/92 Year earlier	P/E last four qtrs.	Market value $ millions 100 RANK	Where traded	
41	**XILINX**	85%	$141.7 71	81% 18	$21.5 33	$20.50 $30.25	23	$469 35	Nasdaq	Supplies electronic equipment makers with logic chips and software to program them. Acquisition of Plus Logic opens big market.
42	**FIRSTMISS GOLD**	85%	$83.0 98	—	$4.3 85	$3.88 $3.13	16	$70 84	Nasdaq	Gold mining in Nevada. Estimated reserves hold about 1,315,100 ounces, good for at least five years, exploring for more.
43	**QVC NETWORK**	84%	$984.8 11	—	$37.1 18	$20.38 $15.00	20	$509 31	Nasdaq	Two 24-hour cable TV shopping channels. They attract 100,000 new customers a month, almost 60% buy again.
44	**WATSCO**	82%	$175.1 60	4% 74	$2.2 95	$9.75 $8.63	12	$16 99	ASE	Manufactures components for air conditioning, heating, refrigeration. Post-Andrew orders are lifting business in Florida.
45	**EKCO GROUP**	81%	$185.4 58	80% 19	$12.5 51	$7.00 $4.50	9	$113 78	NYSE	Homey: baking pans, spatulas, mousetraps. Acquired Frem, a $26 million maker of plastic storage products, in January.
46	**MID-AMERICAN WASTE SYSTEMS**	81%	$147.5 70	106% 10	$14.8 46	$17.63 $24.75	20	$396 40	NYSE	Acquires nonhazardous solid-waste dumps and landfills; serves some 400,000 customers. Recycles and composts too.
47	**KNOWLEDGEWARE**	80%	$115.1 79	5% 72	$0.3 100	$11.50 $29.50	575	$135 76	Nasdaq	Software for management information systems pros. Cut employment 20% after loss in fall of 1991—but increased R&D staff.
48	**RANDOM ACCESS**	78%	$92.2 93	24% 70	$0.4 99	$1.38 $3.63	46	$10 100	Nasdaq	Franchisee of Intelligent Electronics (No. 16). Resells IBM, Compaq, other microcomputers to corporations in West.
49	**FRANKLIN QUEST**	76%	$112.5 81	113% 8	$15.1 45	$16.00 —	18	$310 54	NYSE	Organizational binders and software; runs seminars and teaches time management skills to clients, from GE to the IRS.
50	**REGAL COMMUNICATIONS**	76%	$97.9 90	75% 24	$3.8 88	$3.56 $1.63	12	$40 96	Nasdaq	900 numbers for stock reports, auto ads, "guaranteed" connections with opposite sex. Also produces infomercials.

THE FIVE GREATEST

	MARKET VALUE $ millions	
1	AMGEN	$8,357
2	CISCO SYSTEMS	$2,728
3	ORACLE SYSTEMS	$2,421
4	BLOCKBUSTER ENTERTAINMENT	$2,142
5	FIRST FINANCIAL MANAGEMENT	$1,924

ployees is CEO Behrendt, 53, who testifies to the undiminished power of the American dream. After World War II, his father, Martin, rebuilt the bombed-out E.H. Bernhardt textile plant in Zittau, a small town near the Polish border in East Germany. Its success as a private enterprise, in blatant contrast with the failure of state-owned companies, embarrassed the government. In 1954 the company was seized and Martin arrested on trumped-up charges of sabotage. Later he was convicted in a show trial and imprisoned for six years.

On the fateful day of Martin's arrest, a friend tipped off Peter's mother, Gerda, that the police were on the way to their house. She rushed to the high school and pulled Peter, 15, out of chemistry class. Traveling at night they fled 125 miles to a refugee camp in West Berlin.

A year later they emigrated to the U.S. Gerda found work as a live-in housekeeper in Beverly Hills. In a single week, Peter went from the refugee camp to Beverly Hills High School. He knew three English words: sweetheart, chewing gum, and cowboy. No matter. He went on to get degrees in engineering and philosophy at UCLA and work 26 years at IBM as—among other things—a product manager and quality assurance executive.

Building companies must have been in his blood. He joined Exabyte as president in 1987. "Working for one company is like kissing one girl in your life," he says. "It's nice, but you wonder what you're missing." At the time, the startup employed only 50 people and had shipped 69 tape drives for total sales of $170,000. Since then the company has shipped 450,000 drives, worth $690 million. Harry Hinz left last year. Behrendt became CEO in 1990 and succeeded co-founder Juan Rodriquez as chairman last January.

Behrendt first returned to eastern Germany in the summer of 1990. He took his family on a tour of the old textile factory, after reassuring local authorities that he didn't plan to reclaim ownership of the company. He was busy building another one.

Exabyte has carefully addressed the issue of how to stay in control during whirlwind growth. Using a network of 1,450 PCs—that's 1 per employee—it can close the figures on a quarter just two days after the period ends. The network also lets Exabyte tailor products to a customer's commands right away without stopping the assembly line. To better serve users, Exabyte has manufactured over 200 versions of its 2-gigabyte tape drives. These pocket-size cartridges hold the equivalent of over 2,000 floppy disks—or a stack of memos 38 stories high.

Exabyte gets a bit wacky in its quest to understand the user. It has a distinguished-looking male mannequin named Gus the Customer. He wears Behrendt's old suits and shoes, holds a coffee cup with his name inscribed, and sits in on strategy meetings. "The idea is stupid, but it works," says Beh-

THE FASTEST-GROWING COMPANIES

		SALES		EARNINGS		STOCK				WHAT THEY DO
		Annual growth rate 3-5 years	Last four quarters $ millions	Per share annual growth rate 100 RANK	Net last four qtrs. $ millions 100 RANK	Price 8/31/92 Year earlier	P/E last four qtrs.	Market value $ millions 100 RANK	Where traded	
51	IDB COMMUNICATIONS	75%	$118.5 77	—	$4.6 83	$15.00 $12.50	31	$152 71	Nasdaq	Its global satellite and fiber-optic network carries radio, TV, telephone, and data. New direct-dial to all the CIS republics.
52	RADIUS	74%	$159.5 67	25% 67	$8.7 65	$6.88 $7.25	11	$90 80	Nasdaq	Apple's No. 1 vendor. Hardware and software that boosts the power and graphics performance of personal computers.
53	MICRONICS COMPUTERS	74%	$157.7 68	96% 13	$9.2 61	$4.50 $8.50	5	$47 95	Nasdaq	A big supplier of system boards, the brains of personal computers, to brand-name manufacturers and distributors.
54	RALLY'S	74%	$104.5 85	74% 25	$7.6 68	$24.00 $8.00	24	$200 61	Nasdaq	Boasts made-to-order sandwiches in 45 seconds, 25% cheaper than McD's, from drive-in windows in 25 states.
55	SPORTSTOWN	74%	$102.0 87	—	$1.8 96	$14.25 —	27	$69 85	Nasdaq	Megastores in Georgia and Texas offer 15,000 sporting-goods items, plus bowling-ball drilling, putting greens.
56	VENCOR	73%	$174.5 61	68% 28	$13.5 48	$31.88 $21.75	41	$567 26	NYSE	Owns or leases 20 hospitals for chronically ill patients, most needing life support, in 11 states in the West, South, and Midwest.
57	SERV-TECH	73%	$112.3 82	32% 56	$3.6 89	$9.63 $18.50	17	$54 91	Nasdaq	Major maintenance, environmental, and electrical contracting services for oil industry. Growing in Europe, Canada, and Mexico.
58	AES	71%	$355.5 28	127% 3	$47.9 15	$19.75 $26.50	18	$850 15	Nasdaq	Stakes in six independent power plants in the U.S., all co-generation; two in Northern Ireland, one in England.
59	IVAX	69%	$279.2 39	—	$13.2 49	$27.50 $19.13	131	$1,742 6	ASE	Mainly generic pharmaceuticals, prescription and over-the-counter. Also sells diagnostic test kits, specialty chemicals.
60	INTEGRATED HEALTH SERVICES	69%	$166.4 65	49% 43	$9.1 64	$21.00 $18.75	23	$231 57	Nasdaq	Operates more than 50 nursing homes, many providing occupational and other therapies at lower cost than at hospitals.

THE FIVE FASTEST EPS GROWTH

annual rate over 3–5 years

1	SCIMED LIFE SYSTEMS	143%
2	OGDEN PROJECTS	129%
3	AES	127%
4	CISCO SYSTEMS	126%
5	CABELTRON SYSTEMS	123%

rendt. "It gets people to remember the customer even when the customer isn't present."

Successful high-tech startups don't let the natural hubris of creative genius get in the way of listening to the user. Says Cisco cofounder Sandy Lerner: "If you have the customer on the other end of the line, it's like talking with God." **Symantec** (No. 37), the maker of popular PC software such as the Peter Norton line, invites ten to 20 customers together to two-day Technology Summits. They rap about the future of a product line, such as software that defends against viruses. "You get hours and hours of heated discussions," says CEO Gordon Eubanks Jr., 45. The issues: What's wrong? What can be better? Where should we be a year from now? Says Eubanks: "The key is not getting the most senior people, but the appropriate people, and not to lecture them, but to listen."

One problem for all companies, and especially for fast growers on the technological edge, is what to make of contradictory signals coming from customers. Ed McCracken, 48, CEO of **Silicon Graphics** (No. 83), the biggest maker of workstations for 3-D graphics, says that most users are perfectly happy with existing products: "If we listened to market research about our traditional customers, we would go out of business." McCracken recalls that when his alma mater, Hewlett-Packard, developed the first hand-held calculator, the company's research said that there wasn't a market for it. Most people thought slide rules worked just fine.

"We look for customers who aren't satisfied," says McCracken. "React first to the best and brightest customers. Find the key people who want to break the barriers and demand what we aren't doing today." Silicon Graphics relies on its top engineers—not market researchers—to take the pulse of these "power users."

The fastest-growing companies are laboratories for innovative managerial styles. At **Radius** (No. 52), which makes hardware and software that soup up the graphics of personal computers, CEO Michael Boich, 38, forbids compromises. "You can't make decisions by committee," he says. "A single person has to make the decision." Suppose that person is the general manager of a product line. He'll get advice from an "action team" made up of a bunch of heavy hitters: the CEO, the heads of U.S. and international sales, and the VPs of engineering, manufacturing, finance, and marketing. But ultimately the product manager—the lowest-ranking member of the team—is the one who calls the shots. And the company sticks with his call.

At startups, the culture is a natural extension of the founders' personalities. One good sign is a top executive with a small office. "There's no holy grail of executive offices here," says Sybase's Bob Epstein. "I would make my office smaller if I could." But it's already smaller than the ones most

THE FASTEST-GROWING COMPANIES

		SALES		EARNINGS		STOCK				WHAT THEY DO
		Annual growth rate 3-5 years	Last four quarters $ millions	Per share annual growth rate	Net last four qtrs. $ millions	Price 8/31/92	P/E last four qtrs.	Market value $ millions	Where traded	
			100 RANK	100 RANK	100 RANK	Year earlier		100 RANK		
61	CRITICAL CARE AMERICA	68%	$264.1 43	24% 68	$29.2 25	$35.75 $44.63	26	$763 19	NYSE	Provides intravenous drugs and nutrients at home for patients; runs more than 50 regional centers in metropolitan areas.
62	INTERNATIONAL RECOVERY	67%	$221.2 49	47% 45	$5.0 81	$14.63 $16.63	14	$69 86	NYSE	Operates 24-hour fueling stations for planes at more than 1,100 airports around the world; recycles used oil.
63	NOVACARE	66%	$385.0 24	52% 39	$37.5 17	$20.00 $18.75	27	$762 20	NYSE	Supplies rehabilitation therapy services to long-term health care institutions; has acquired prosthetic and orthotic care firm.
64	CENTURY MEDICORP	66%	$170.3 64	113% 7	$6.7 74	$28.13 $10.00	25	$152 70	Nasdaq	Three HMOs serving about 120,000 people in Southern California. Also owns two hospitals; expects to expand northward.
65	PHARMACY MGMT. SERVICES	66%	$103.0 86	32% 57	$2.2 94	$7.00 $10.75	30	$61 88	Nasdaq	Managed care for workers compensation claimants from time they're hurt until they return to work. Operates in 28 states.
66	HOSPITAL STAFFING SERVICES	65%	$113.2 80	30% 59	$3.2 92	$5.25 $11.25	9	$29 97	NYSE	Mostly home-nursing services in California, Florida, and the Northeast. Also places medical temps in hospitals.
67	QUANTUM	63%	$1,245.4 8	33% 52	$55.9 11	$13.63 $11.50	11	$573 25	Nasdaq	Hard disk drives for personal computers, workstations, notebook computers. International sales last year were 45% of total.
68	COMPTRONIX	63%	$117.3 78	73% 26	$6.4 79	$18.13 $9.25	31	$196 62	Nasdaq	Assembles printed circuitboards for electronics manufacturers, works with customers to develop new products.
69	FIRST FINANCIAL MANAGEMENT	62%	$1,321.6 7	28% 63	$107.2 3	$34.50 $28.13	17	$1,924 5	NYSE	Information services: credit card authorization, check verification, data and transaction processing for Medicaid programs.
70	TRIMAS	60%	$366.9 27	29% 61	$23.5 30	$22.50 $20.63	15	$311 53	NYSE	Its 15 businesses manufacture screws, trailer hitches, steel drums for industrial fluids, and other gritty stuff.

Actress Susan Lucci (right) pitches hair care products on QVC Network.

drones get at big companies. For years he used a $120 pressboard desk that a cofounder had assembled. Last summer Epstein's staff replaced it while the boss was away. "The goal is not cheapness," he allows, "but a sense of values."

Humility is a prime virtue for leaders of growth companies, where the natural temptation is toward arrogance. "You have every right to be humble," is one of Bob Epstein's mottoes. The other: "No one ever lost a sale by listening too closely." A reporter once asked Peter Behrendt's wife how she keeps him so humble. Her answer: When Peter gets his photo in the paper, she makes him take out the cat litter.

Sustaining a culture is especially hard now that high-tech companies go global virtually from the start. Exabyte's seventh tape drive was shipped to France. Sybase's Epstein says the only way to establish the culture overseas is by sending American executives to set the tone. So he spent six months working in Paris this year. Fittingly, Sybase's symbol is the snail-like exponential curve, which preserves its shape and identity as it gets bigger.

When a company grows to the point that the founders no longer know everyone's name, it's important to promote the culture through explicit programs. Behrendt runs Pastries With Peter, a monthly breakfast with ten randomly picked employees. So far he has met with some 400 of the company's 968 employees this way.

Exabyte also holds 2½-hour quarterly meetings for all employees. There's Q&A with top management and speeches from outsiders, such as customers and vendors. Behrendt introduces all new employees, showing slides of them and making sure to say something personal and interesting about each. No wonder the company attracted 10,000 applications for 200 new jobs last year. Its annual turnover: a tiny 6%.

While growing from a handful of people to hundreds, companies should hold on to a sense of belonging and common purpose. All Exabyte employees have business cards, including workers on the manufacturing line. Behrendt says this shows them that the company wants them around a long time and sees them as its representatives in the commun[illegible] At Symantec, every project team [illegible]igns its own T-shirt. Software developers wear them around the office as a sign of team spirit. The company store is stocked high with employee-designed items from yo-yos to coffee mugs and playing cards, all bearing the Symantec name.

continued

THE FASTEST-GROWING COMPANIES

		SALES		EARNINGS		STOCK				WHAT THEY DO
		Annual growth rate 3-5 years	Last four quarters $ millions 100 RANK	Per share annual growth rate 100 RANK	Net last four qtrs. $ millions 100 RANK	Price 8/31/92 Year earlier	P/E last four qtrs.	Market value $ millions 100 RANK	Where traded	
71	NABORS INDUSTRIES	60%	$272.6 42	68% 27	$33.5 21	$7.75 $5.75	15	$395 41	ASE	Drilling, transportation, construction, and maintenance for the oil industry; North and South America, the Middle East, Asia
72	EXIDE ELECTRONICS GROUP	60%	$203.0 52	—	$3.3 91	$11.75 $7.75	21	$64 87	Nasdaq	Its backup power supply products keep computers going during power failures and protect against voltage fluctuations
73	OFFSHORE PIPELINES	58%	$389.6 23	—	$6.8 73	$12.75 $8.88	15	$102 79	NYSE	Marine construction services to offshore oil and gas producers. Building international business with ships acquired in 1990.
74	GENZYME	58%	$172.7 63	—	$32.0 24	$40.25 $42.00	30	$844 16	Nasdaq	Biopharmaceutical products include Ceradase, for treating Gaucher disease. In development: treatments for cystic fibrosis
75	AMERICAN OIL & GAS	57%	$372.7 26	—	$16.4 43	$14.38 $10.63	19	$313 51	NYSE	Owns the principal natural-gas pipeline system in Western Texas; looking for more while demand and prices are relatively low.
76	RAMSAY-HMO	57%	$199.7 54	—	$7.5 70	$25.00 $14.00	20	$147 72	Nasdaq	Health care managment in South Florida, with fast-growing Medicare-eligible population and a surplus of physicians
77	DELL COMPUTER	56%	$1,338.7 6	35% 51	$70.2 7	$25.25 $21.75	14	$904 12	Nasdaq	The PC direct-marketing pioneer now gets more than half its sales from high-performance systems such as workstations.
78	ORACLE SYSTEMS	56%	$1,178.5 9	—	$61.5 9	$17.50 $11.25	41	$2,421 3	Nasdaq	Database software for big and small computers; sells applications packages for accounting, manufacturing, human resources.
79	CONTINENTAL MEDICAL SYSTEMS	56%	$658.8 17	49% 41	$26.4 27	$17.63 $20.13	24	$547 28	NYSE	Inpatient and outpatient rehabilitation—for strokes, orthopedic problems, work injuries—at 142 facilities in 26 states.
80	VISHAY INTERTECHNOLOGY	55%	$547.9 19	12% 71	$22.8 32	$25.50 $18.50	18	$312 52	NYSE	Electronic components for computers, cars, medical equipment, other products; acquired Sprague Technologies this year.

CEO Eubanks explains his management approach as the four P's: people, products, passion, and process. "People" comes first, he says. "In order to be successful, you need a continuity of people." From the beginning, high-potential companies need to attract individuals who will be ready to handle whatever hits them when growth suddenly explodes and there's no time to waste.

Unable to set a steady course in constantly shifting waters, fast vessels must rely on the versatility of their crews. "We don't do long-term planning," says Ed McCracken of Silicon Graphics. His company looks no further than two years ahead, since its product cycle is only eight months. The breakneck pace demands scrappy individuals who can adapt, improvise, overcome. "If you don't like to have your desk moved three times a year," McCracken says, "don't work here."

In the heady rush of growth, creators of new companies can lose their heads. Two years ago **California Energy** (No. 11), a leading producer of geothermal power, was in poor financial condition despite sharply rising sales. The founders were "visionary entrepreneurs," says President Richard Jaros, 40, but not managers—and they got carried away by their success. They splurged on a company plane and some 20 company cars, including a Bentley. To the rescue came Peter Kiewit Sons', the big construction firm, which began buying a 38% stake in February 1991. Like Warren Buffett, a tenant in Kiewit's Omaha office building, the company invests shrewdly and controls spending. It brought in new top management, led by Jaros, the man on our cover. A University of Chicago MBA, he had honed his financial skills during ten years at Kiewit. He sold the plane, cut staff, and moved the headquarters from San Francisco to Omaha. In all, corporate overhead got sliced in half. Results: Earnings rose 122% last year. Net profit margins climbed from 13% to 20%.

California Energy will benefit as the fragmented independent power industry consolidates in favor of large-scale, low-cost producers, and as regulatory change gives the indies still more access to power grids. "We're at a launching point for further reform," says Jaros. The company manages and with the Navy co-owns the huge Coso geothermal site in the Mojave Desert, which sells electricity to Southern California Edison. It also runs geothermal plants in Utah and Nevada and holds rights to 500,000 acres of hot properties throughout the Rockies and the Sierras.

Managers can anticipate trends such as industry consolidation and regulatory change, but many opportunities for growth aren't nearly so apparent. Although America's MBA factories are trying to reduce entrepreneurship to something that can be scientifically modeled and analyzed, real tycoons still have a high tolerance for chaos. Says Regis

THE FIVE HIGHEST EARNINGS

past four quarters ($ millions)

1	AMGEN	$244.3
2	BLOCKBUSTER ENTERTAINMENT	$112.0
3	FIRST FINANCIAL MANAGEMENT	$107.2
4	CONNER PERIPHERALS	$101.3
5	CISCO SYSTEMS	$84.4

THE FASTEST-GROWING COMPANIES

		SALES		EARNINGS		STOCK				WHAT THEY DO
		Annual growth rate 3-5 years	Last four quarters $ millions 100 RANK	Per share annual growth rate 100 RANK	Net last four qtrs. $ millions 100 RANK	Price 8/31/92 Year earlier	P/E last four qtrs.	Market value $ millions 100 RANK	Where traded	
81	SOFTWARE SPECTRUM	55%	$174.0 62	40% 49	$4.5 84	$23.00 $12.00	16	$72 82	Nasdaq	Reseller of business software for microcomputers, serving mainly big companies; provides seminars, technical support.
82	ASSOCIATED NATURAL GAS'	54%	$824.2 13	44% 46	$10.0 60	$28.38 $27.25	35	$400 39	NYSE	Gathers, processes, and transports natural gas and crude oil in eight Southern states; looking for acquisitions.
83	SILICON GRAPHICS	54%	$739.1 14	29% 60	$50.7 13	$21.50 $20.50	24	$947 11	NYSE	Computer systems with 3-D color graphics; acquired $129-million-a-year MIPS Computer Systems (RISC technology).
84	MID ATLANTIC MEDICAL SERVICES	54%	$494.3 20	77% 21	$10.9 57	$11.88 $8.63	15	$167 68	Nasdaq	HMOs in Virginia, Maryland, and District of Columbia, with projected membership of about 460,000 by year-end.
85	KOMAG	54%	$289.9 36	—	$9.1 63	$15.88 $21.50	38	$325 48	Nasdaq	Supplies thin-film components for computer disk drives. Three manufacturing joint ventures, one in Japan.
86	ADOBE SYSTEMS	54%	$252.1 44	49% 42	$54.4 12	$32.50 $50.88	14	$732 21	Nasdaq	Systems and applications software for electronic printing and publishing. Its PostScript computer language is industry standard.
87	ORBITAL SCIENCES	54%	$153.5 69	—	$2.4 93	$11.38 $15.25	54	$132 77	Nasdaq	Builds unmanned space and suborbital vehicles; setting up global satellite network for pager-like devices that send text.
88	OCTEL COMMUNICATIONS	53%	$188.8 57	53% 38	$21.4 34	$21.75 $26.75	19	$381 43	Nasdaq	Its newest system lets a user send and receive voice mail or computer data, ask for a fax, get news services through a phone.
89	LYNCH	53%	$101.7 88	5% 73	$1.6 97	$18.88 $17.88	15	$24 98	ASE	Diversified! Phone companies in niche markets, mobile-home transport, glass-making machinery, investment advice.
90	HEALTHSOUTH REHABILITATION	52%	$316.7 33	37% 50	$25.4 28	$21.88 $23.38	25	$409 38	NYSE	Provides acute care at four medical centers, therapy for chronic cases at 119 inpatient and outpatient centers.

Cisco links Allegheny Ludlum's computers to the steel mill's floor.

McKenna: "Steve Jobs and Steve Wozniak. Bill Gates—they didn't put together business plans. They went out and did it."

Jeff Bernstein and Brian Hinman certainly followed the "just do it" philosophy. They formed PictureTel in August 1984 and, rather astonishingly, raised $4 million through a public stock offering that October. How did they pull it off? Bernstein guesses it was the credibility of the MIT name and the backing of their professor, David Staelin, who signed on as chairman.

At that point, videophones worked only on special high-capacity phone lines. Creating a continuous stream of visual images required transmitting huge amounts of digitized information. But the world isn't going to get totally wired for data anytime soon. Voice telephone lines will remain the only universal link. The MIT kids figured the key to popularizing videophones would be enabling users to dial up calls on regular phone lines. PictureTel made it work using "digital compression." That means creating complex algorithms to transmit only the information that's absolutely essential. (AT&T uses digital compression technology developed by another startup, Compression Labs of San Jose, California.)

After two years of R&D, PictureTel's money was running out. Staelin called on Norman Gaut, an MIT Ph.D. in planetary physics with whom he had run an environmental consulting firm. Gaut raised $2 million more from friends and $1 million from Japan's Kyocera and Ascii. Finally the company came out with a crude product, installing its first videoconferencing system at ADR, a software firm in New Jersey. The 200-pound, 1,800-watt unit blew out the client's lights and computers.

Since that unpropitious start, PictureTel has spawned a lineup of leading-edge systems for business use, with high-quality video and sound. They sell for around $20,000; AT&T's videophone, by contrast, is a relatively crude $1,500 machine for home use. In July, IBM began shipping PS/2 desktop computers that use PictureTel technology to double as videophones. In October, PictureTel and Siemens will publicly demonstrate a stand-alone phone with a four-inch screen.

The techies who launch high-growth companies tend toward restlessness. Sneaker-clad Bernstein remains PictureTel's "chief guru," says CEO Gaut, but cofounder Hinman is already off running his second startup, Polycom, in San Jose, which just started to ship a mass-market audio conferencing device retailing for $1,000. Sandy Lerner and Len Bosack's de-

THE FASTEST-GROWING COMPANIES		SALES		EARNINGS		STOCK				WHAT THEY DO
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91	DUTY FREE INTERNATIONAL	52%	$272.8 41	41% 48	$25.3 29	$27.13 $34.75	27	$772 18	NYSE	Shops in airports, along Canadian and Mexican borders, at terminals for departing cruise ships; phone orders for diplomats
92	VIATECH	51%	$293.7 35	32% 55	$6.6 76	$24.88 $29.00	11	$71 83	ASE	Packaging for food, chemicals, cosmetics, more. Subsidiaries in Germany, Spain, France. Czechoslovakia could be next
93	VALUE HEALTH	51%	$207.7 51	—	$11.0 55	$37.75 $21.13	50	$509 30	Nasdaq	Managed care for health plans serving 21 million people nationwide. Subsidiaries provide mental health services, foot care
94	SYQUEST TECHNOLOGY	51%	$163.7 66	26% 66	$10.3 59	$16.25 —	1'	$179 64	Nasdaq	Makes and markets removable cartridge disk drives and data storage cartridges for Apple, IBM, and clone machines
95	MAGMA POWER	51%	$98.4 89	55% 37	$34.6 20	$21.63 $26.88	15	$496 33	Nasdaq	Operates four geothermal power plants in Southern California, gets royalties from others; seeking still more hot spots
96	GENDEX	51%	$94.3 92	24% 69	$6.5 78	$25.63 $10.88	38	$255 56	Nasdaq	Dental drills, X-ray systems, and such. Acquired a Dutch X-ray company and a U.S. medical and industrial X-ray tube maker
97	HEALTHCARE COMPARE	51%	$88.7 96	48% 44	$18.8 39	$35.25 $28.00	53	$1,163 9	Nasdaq	Manages health care costs, assessing treatment prescribed for people in clients' plans and lining up low-cost providers
98	MERISEL	50%	$1,855.8 3	—	$17.4 42	$7.13 $3.00	11	$208 60	Nasdaq	Wholesaler of microcomputer products with subsidiaries in Canada, Europe, Australia; joint venture in CIS; Mexican distributor.
99	OGDEN PROJECTS	50%	$412.7 22	129% 2	$56.4 10	$17.00 $21.63	11	$639 24	NYSE	Operates a score of plants that burn municipal garbage and create electricity or steam; currently negotiating with Chicago
100	NEW LINE CINEMA	50%	$244.1 45	29% 62	$7.7 67	$11.13 $12.13	21	$140 74	ASE	Independent movie producer and distributor. Average cost to produce a film: a low $5.2 million. Distributed hit *The Player*.

parture from Cisco followed their clash with Morgridge, brought in as CEO by venture capitalist Donald Valentine, whose firm bought 34% of the company for $2.5 million in 1987. (And made $53 million on paper when Cisco went public two years later.) Says Lerner: "Very few people are technically capable *and* have the foresight, experience, or good luck to structure high-potential companies and stay in the driver's seat." Bill Gates is a notable exception.

Bosack and Lerner sold their Cisco stock within a year of leaving. They've set up a charitable foundation with $115 million. He donates to scientists; she supports animal rights. And they've started a new company that's trying to rev up the retrieval of data from disk drives, which for years has trailed far behind the stunning gains in processing speed. They expect to get their first product to a small number of sophisticated users at national research labs by the middle of next year. Who says there are no second acts in American lives? F

INDEX

			Rank
ADOBE SYSTEMS	Mountain View, Calif.	415-961-4400	86
ADVANCED LOGIC RESEARCH	Irvine, Calif.	714-581-6770	40
AES	Arlington, Va.	703-522-1315	58
AMERICAN OIL & GAS	Houston	713-739-2900	75
AMERICAN POWER CONVERSION	West Kingston, R.I.	401-789-5735	39
AMERICAN WASTE SERVICES	Warren, Ohio	216-856-8800	19
AMGEN	Thousand Oaks, Calif.	805-499-5725	29
ASSOCIATED NATURAL GAS	Denver	303-595-3331	82
BLOCKBUSTER ENTERTAINMENT	Fort Lauderdale, Fla.	305-524-8200	22
CABLETRON SYSTEMS	Rochester, N.H.	603-332-9400	36
CALIFORNIA ENERGY	Omaha	402-330-8900	11
CALLAWAY GOLF	Carlsbad, Calif.	619-931-1771	21
CENTURY MEDICORP	Los Angeles	213-266-1254	64
CIRRUS LOGIC	Fremont, Calif.	510-623-8300	23
CISCO SYSTEMS	Menlo Park, Calif.	415-326-1941	3
COLUMBIA HOSPITAL	Fort Worth	817-870-5900	4
COMPTRONIX	Guntersville, Ala.	205-582-1800	68
COMPUCOM SYSTEMS	Dallas	214-783-1252	25
CONNER PERIPHERALS	San Jose, Calif.	408-456-4500	34
CONTINENTAL MEDICAL SYSTEMS	Mechanicsburg, Pa.	717-790-8300	79
COVENTRY	Nashville	615-251-5500	27
CRITICAL CARE AMERICA	Nashua, N.H.	603-886-0900	61
DAMON	Needham Hts., Mass.	617-449-0800	9
DELL COMPUTER	Austin, Tex.	512-338-4400	77
DESTEC ENERGY	Houston	713-735-4000	35
DIAGNOSTEK	Albuquerque, N.Mex.	505-345-8080	13
DUTY FREE INTERNATIONAL	Ridgefield, Conn.	203-431-6057	91
EXCO GROUP	Nashua, N.H.	603-888-1212	45
ENERGY VENTURES	Houston	713-297-8400	31
EXABYTE	Boulder, Col.	303-442-4333	8
EXIDE ELECTRONICS GROUP	Raleigh, N.C.	919-872-3020	72
FIRST FINANCIAL MANAGEMENT	Atlanta	404-321-0120	69
FIRSTMISS GOLD	Reno, Nev.	702-827-0211	42
FRANKLIN QUEST	Salt Lake City	801-975-1776	49
GENDEX	Milwaukee	708-640-4800	96
GENZYME	Cambridge, Mass.	617-252-7500	74
GRANCARE	Culver City, Calif.	310-645-1555	2
HEALTHCARE COMPARE	Downers Grove, Ill.	708-241-7900	97
HEALTHSOUTH REHABILITATION	Birmingham, Ala.	205-967-7116	90
HOSPITAL STAFFING SERVICES	Fort Lauderdale, Fla.	305-771-0500	66
ID3 COMMUNICATIONS	Culver City, Calif.	213-870-9000	51
INTEGRATED HEALTH SERVICES	Hunt Valley, Md.	410-584-7050	60
INTELLIGENT ELECTRONICS	Exton, Pa.	215-458-5500	16
IVAX	Miami, Fla.	305-590-2200	59
INTERNATIONAL RECOVERY	Miami Springs, Fla.	305-884-2001	62
KNOWLEDGEWARE	Atlanta	404-231-8575	47
KOMAG	Milpitas, Calif.	408-946-2300	85
LDDS COMMUNICATIONS	Jackson, Miss.	601-364-7000	30
LYNCH	Greenwich, Conn.	203-629-3333	89
MAGMA POWER	San Diego	619-487-9412	95
MATRIX SERVICE	Tulsa	918-838-8822	32
MAXXAM	Houston	713-975-7600	17
MERISEL	El Segundo, Calif.	310-615-3080	98
MICRONICS COMPUTERS	Fremont, Calif.	510-651-2300	53
MID-AMERICAN WASTE SYSTEMS	Canal Winchester, Oh.	614-833-9155	46
MID ATLANTIC MEDICAL SVCS.	Rockville, Md.	301-294-5140	84
NABORS INDUSTRIES	Houston	713-874-0035	71
NEW LINE CINEMA	New York City	212-649-4900	100
NOVACARE	Valley Forge, Pa.	215-631-9300	63
OCTEL COMMUNICATIONS	Milpitas, Calif.	408-321-2000	88
OFFICE DEPOT	Delray Beach, Fla.	407-278-4800	12
OFFSHORE PIPELINES	Houston	713-952-1000	73
OGDEN PROJECTS	Fairfield, N.J.	201-882-9000	99
ORACLE SYSTEMS	Redwood City, Calif.	415-506-7000	78
ORBITAL SCIENCES	Fairfax, Va.	703-631-3600	87
OUTBACK STEAKHOUSE	Tampa	813-282-1225	7
OXFORD HEALTH PLANS	Darien, Conn.	203-656-1442	33
PHARMACY MANAGEMENT SVCS.	Tampa	813-626-7788	65
PHYCOR	Nashville	615-665-9066	5
PICTURETEL	Danvers, Mass.	508-762-5000	14
QVC NETWORK	West Chester, Pa.	215-430-1000	43
QUAL-MED	Pueblo, Col.	719-542-0500	6
QUANTUM	Milpitas, Calif.	408-894-4000	67
RADIUS	San Jose, Calif.	408-434-1010	52
RALLY'S	Louisville, Ky.	502-245-8900	54
RAMSAY-HMO	Coral Gables, Fla.	305-447-3200	76
RANDOM ACCESS	Denver	303-745-9600	48
RASTEROPS	Santa Clara, Calif.	408-562-4200	28
REGAL COMMUNICATIONS	Ft. Washington, Pa.	215-540-1190	50
REPUBLIC WASTE INDUSTRIES	Atlanta	404-431-7140	15
SCIMED LIFE SYSTEMS	Maple Grove, Minn.	612-420-0700	38
SERV-TECH	Houston	713-644-9974	57
SILICON GRAPHICS	Mountain View, Calif.	415-960-1980	83
SOFTWARE SPECTRUM	Garland, Tex.	214-840-6600	81
SPORTSTOWN	Norcross, Ga.	404-246-5300	55
STAPLES	Framingham, Mass.	508-370-8500	24
STARBUCKS	Seattle	206-447-1575	26
SYBASE	Emeryville, Calif.	800-879-2273	20
SYMANTEC	Cupertino, Calif.	408-253-9600	37
SYNOPTICS COMMUNICATIONS	Santa Clara, Calif.	408-988-2400	10
SYQUEST TECHNOLOGY	Fremont, Calif.	510-226-4000	94
T^2 MEDICAL	Alpharetta, Ga.	404-442-2160	18
TRIMAS	Ann Arbor, Mich.	313-747-7025	70
VALUE HEALTH	Avon, Conn.	203-678-3400	93
VENCOR	Louisville, Ky.	502-569-7300	56
VIATECH	Syosset, N.Y.	516-822-4940	92
VISHAY INTERTECHNOLOGY	Malvern, Pa.	215-644-1300	80
WATSCO	Coconut Grove, Fla.	305-858-0828	44
WELLFLEET COMMUNICATIONS	Bedford, Mass.	617-275-2400	1
XILINX	San Jose, Calif.	408-559-7778	41

The world's growth center is shifting across the Pacific, spurring the fastest-rising markets on the globe. The U.S. succeeded in containing communism. Now the winners are mostly Asian capitalists.

ASIA 2000

■ By Louis Kraar

THE PACIFIC CENTURY is dawning like thunder out of China. Yes, everyone has been gazing at the horizon in anticipation of the emergence of a new center of economic growth. But its arrival comes with dramatic impact for Western business—and with a few surprises. Already Asia is the world's biggest consumer of steel and, not counting Japan, the fastest-growing market for autos. Even richer opportunities lie ahead. By the year 2000 the economies of East Asia—spanning from Japan to Indonesia—will almost certainly equal that of the U.S. and total about four-fifths of the European Community.

More important, China is fitfully awakening, stretching to become both a new export power and a market of 1.17 billion potential consumers. A preview of that future is visible in the Pearl River Delta, where Chinese eagerly buy the brands of beer and television sets advertised on TV shows beamed from nearby Hong Kong. Says Singapore's former Prime Minister Lee Kuan Yew, one of Asia's most durable and visionary leaders: "What Hong Kong and Taiwan have done, China will be able to do when she has moved completely into a market economy without subsidized state industries."

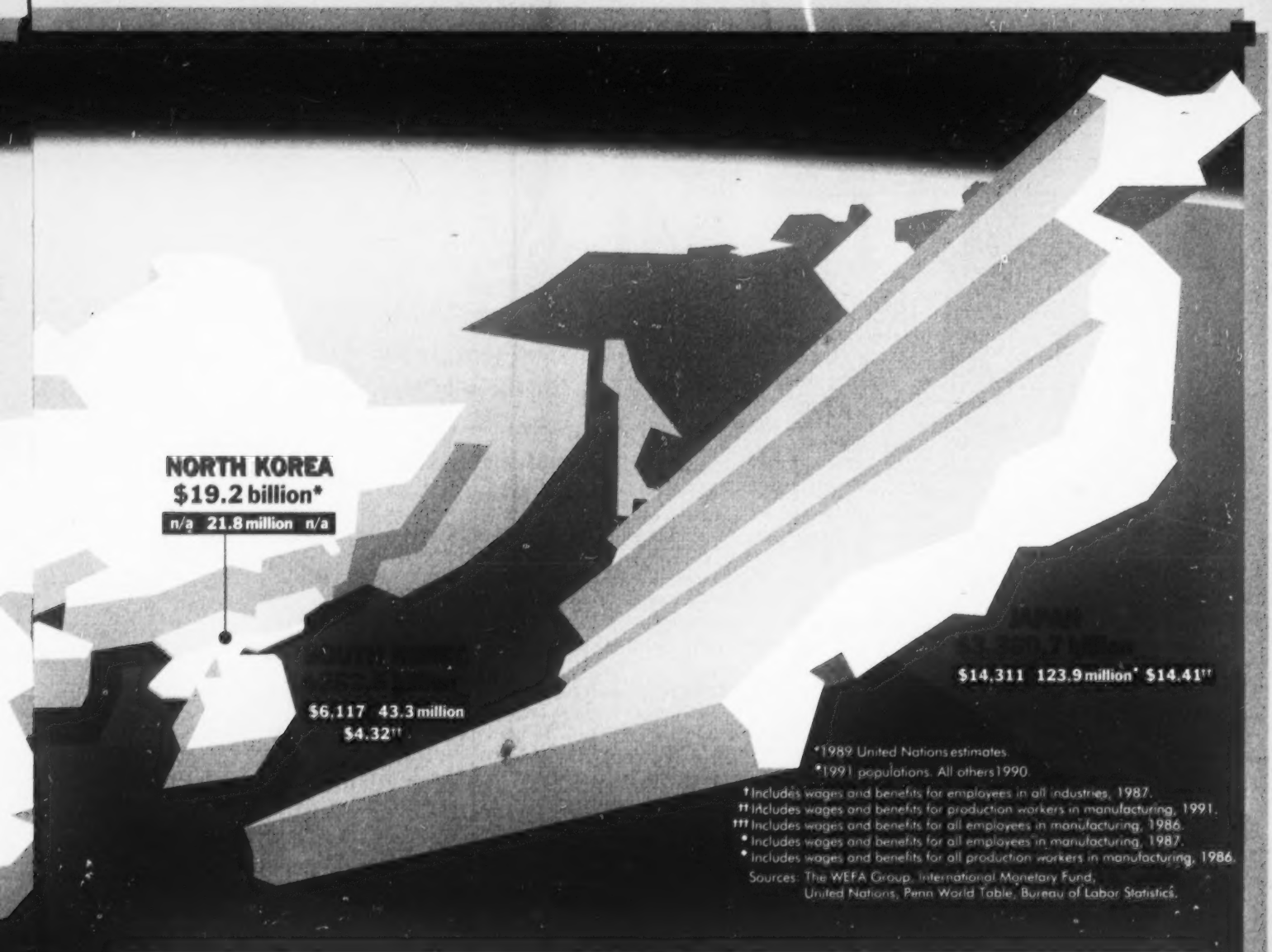
Barely noticed by many Westerners, such new economic powers as Thailand, Malaysia, and Indonesia are also rising rapidly, on the strength of manufacturing as well as natural resources. Says Bill Barron, a senior fund manager in Hong Kong for Aetna Investment: "Southeast Asia's growth has kind of snuck up on the West. The major economies of the region will be coming into their own in the next century."

In this vibrant region, oddly enough, America has a fairly low profile. Having fought two bitter wars since 1950 to contain communism in Asia, the U.S. has certainly triumphed. Not only China but also Vietnam is moving toward capitalism. Even North Korea is inching in that direction. But the most active participants in Asian business are the Japanese and some 55 million Overseas Chinese scattered among the high-growth Asian countries.

What happened to the Americans? Recession cannot be solely to blame, for Japan has slowed too. Says an American economist in Jakarta, Indonesia's capital: "We're just not aggressive." It's tough pioneering such markets as Indonesia and China, which lack a solid legal framework for business and rely more on personal relationships. But by holding back, U.S. companies are almost handing opportunities to more daring Asian rivals—both Japanese and potent conglomerates in Thailand, Singapore, and South Korea. The strength they gather in Asia will eventually pose a competitive threat to American companies in the U.S. Says Linda Lim, a Southeast Asian specialist at the University of Michigan: "We must deny the Japanese a profit sanctuary."

Americans must begin by learning more about Asia, which is far from an exclusive Japanese preserve. Says Singapore economist Lee Tsao Yuan: "People talk of Japan as the economic leader of Asia, but the Overseas Chinese are also a driving force." They are a lot more venturesome these days than the Japanese, who are hurt by troubles in both their securities and property markets. Leading Overseas Chinese entrepreneurs can be invaluable middlemen because they operate through a network of personal contacts that extends into China. Procter & Gamble, for instance, got into

THE PACIFIC RIM
Countries are scaled by size of Gross Domestic Product
CHINA
GDP $371.2 billion
IN U.S. DOLLARS, 1991
$2,656 1,139 million $0.24[1]
Per Capita GDP
ADJUSTED FOR PURCHASING POWER, 1989
POPULATION
Average hourly compensation
IN U.S. DOLLARS
LAOS
$1.4 billion*
n/a 4.1 million n/a
MYANMAR
$16.4 billion*
$595 41.7 million n/a
HONG KONG
$82.7 billion
$15,180 5.8 million $3.58[1]
THAILAND
$92.0 billion
$3,569 56.9 million* n/a
$6,837 20.4 million $4.42[1]
CAMBODIA
$0.9 billion*
n/a 8.2 million n/a
n/a 66.2 million n/a
$2,269 62.9 million* $0.42*
$5,649 17.9 million $1.19*
$15,108 2.8 million* $4.38[1]
$2,034 179.3 million $0.40[1]



the Chinese shampoo market by striking an alliance with Hong Kong billionaire Li Ka-shing.

Fully understanding the active economic role of Asian governments will also help U.S. business. Most Asian nations practice a brand of capitalism that combines industrial policy with freewheeling competition. In Singapore, a paragon of free enterprise, the government runs many industrial companies, including Singapore Technologies Group, which had $1.3 billion in sales last year and has joint ventures with such companies as Xerox and Pratt & Whitney. And in Indonesia, where several children of President Suharto run conglomerates, one of them is the local partner of AT&T. Clearly, knowing the players in each country helps in penetrating the market.

The most important thing that Westerners can learn from Asians is how to motivate workers. The region's success is often explained in terms of cultural forces, including close family ties, a strong belief in the value of education, a penchant to save for the future. Those Confucian values are much the same as what Americans once called the Puritan Ethic. There's nothing exotic about the strength of Asians: They just work hard at everything. So can Westerners. F

GRAPHICS BY JOHN GRIMWADE

CHINA REALLY IS ON THE MOVE

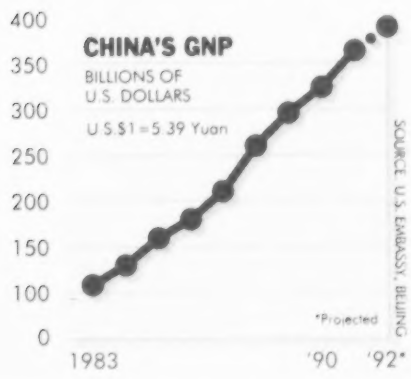
The hard-liners keep hanging on, but the numbers are difficult for even the crustiest socialist to argue against.

■

BRENTON SCHLENDER

GO JUST about anywhere in China and you're likely to run into a traffic jam. Swarms of bicycles, cars, trucks, and pedestrians joust their way around one construction project after another. Skylines bristle with cranes—so many that you wonder whether the spindly gantries shouldn't be designated the new national bird. China has become the world's largest construction site as crews in nearly every corner of the country rush to reroute roads, bridge unspanned rivers, stack up office towers, and carve factories out of rice paddies in the name of economic reform.

All this frenetic building is the most palpable sign of the scope, ambition, and attendant chaos of China's renewed rush to become a market-driven 20th-century economy by the turn of the 21st. And it's not restricted to suburban Hong Kong and the ballyhooed coastal regions of South China (see following story). From sleepy tea- and rice-growing towns in the countryside to the teeming streets of Shanghai, Wuhan, Tianjin, and Beijing, China is booming. The only exceptions are China's remote and backward western provinces, which cover vast areas of desert and mountainous terrain. If you've been doing most of your worrying about Japan as a tough competitor, you can start thinking about adding China.



Apparently lost in the dust kicked up by all this activity are the political misgivings and fears of many ordinary Chinese following the 1989 pro-democracy clashes that left student protesters' blood smeared on Tiananmen Square. While the West can't shake those violent images, in China what sets people's tongues wagging these days are the doings at the new stock markets in Shanghai and Shenzhen, the price of lucky phone numbers auctioned off in Beijing, the "high" salaries offered by new foreign joint ventures and small independent businesses (about $100 a month, or triple the average worker's wage), and other trappings of what many would call capitalism. Says Bank of Tokyo China expert Isao Ohkuba: "China has already passed the point of no return. The Chinese now have a taste of how people live in the outside world and no longer will they tolerate a lower standard of living. China *has* to keep reforming."

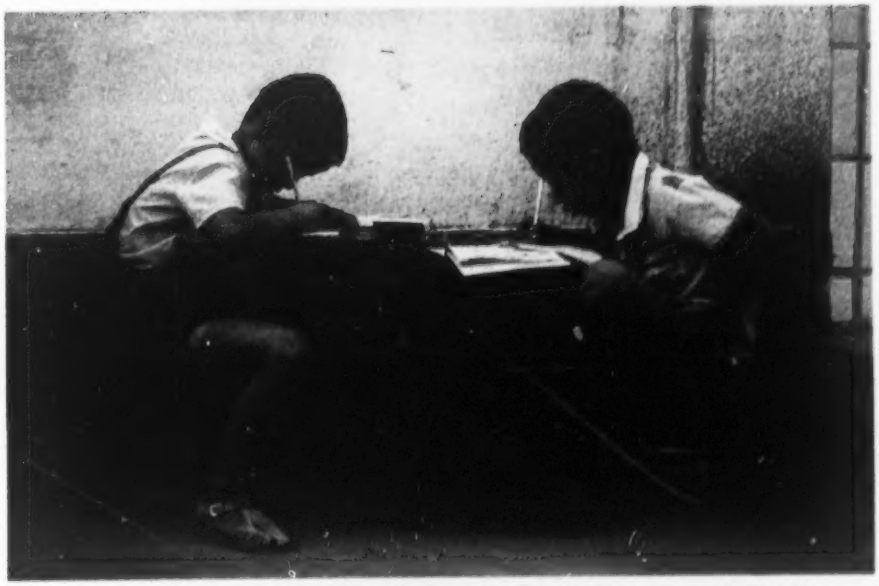
The head cheerleader for redoubled economic reform is none other than senior leader Deng Xiaoping, 88 years old and counting. Since early this year, Deng has made a spectacle of visiting factories and special economic zones that are the best examples of the new, improved China, and declaring that "to be rich is glorious." He has relentlessly prodded both the ruling Communist Party and bureaucrats to accelerate reform of state-run industries and the process of opening to the outside world.

The bustle of Shanghai, China's largest city, is a reflection of the country's renewed effort to become a market-driven 20th-century economy —in time for the start of the next century.

PHOTOGRAPHS BY FORREST ANDERSON—GAMMA/LIAISON

The numbers are hard even for diehard socialists to argue against. The growth of China's gross domestic product, which has averaged 8.6% annually since reforms began in 1979, should hit double digits this year. Unemployment is down to 2.5%, and exports grew 16% last year to $72 billion. Average salaries rose more than 10% in 1991 while inflation held at 4.2%. Government price controls now affect less than a third of available goods, and more products and materials are being decontrolled every month. Meanwhile, foreign investment, which slumped after 1989's political turmoil, last year climbed to $5 billion.

Nevertheless, China is an economy under construction, and communist foremen are still on the building site, so hard hats are recommended. Says a Western diplomat: "China has made all the easy, win-win reforms of freeing up agriculture and small-scale enterprise, setting up stock market experiments, and encouraging overseas trade and foreign investment. But now they face the meat of the matter: They must revitalize the state-run industrial dinosaurs, they must rationalize the byzantine bank-



The past: These children in Wuxi, near Shanghai, painstakingly write Chinese characters the old way.

ing, tax, and currency exchange systems, and they must reduce both the role and the size of government. Each of these reforms faces entrenched opposition either in the Communist Party or in particular ministries and provinces. I'm not sure there's enough political will to do it all."

China's to-do list is as daunting as it is long. As always, politics complicate every line item. After 42 years of communist rule, there is still no orderly method of political succession for key leaders in either the party or the government. Some practical matters are even more pressing. The government has had budget deficits in 11 of the 12 years since reform began. Last year the deficit equaled 3.4% of gross national product, and this year it could exceed 4%. The deficit, coupled with double-digit growth rates, could trigger another round of inflation and wipe out much of the improvement in the standard of living in a matter of months.

Meanwhile, economic reform—along with more cost-conscious managers—is finally beginning to crack China's vaunted "Iron Rice Bowl" policy of providing cradle-to-grave job security. So far the expanding economy has created new jobs for those who have been fired, but if it stops doing so, social unrest is almost sure to follow. Reform is also widening the differences in living standards across the country. Such disparities also could lead to social discord.

Finally, China must tackle the stodgy, oversubsidized, state-run enterprises that dominate heavy industry—steel mills, mining concerns, makers of vehicles and machinery. These behemoths account for about half the country's industrial output, but one-third of them are bleeding buckets of red ink, and another third are struggling, even with huge cash infusions and price protection from Beijing.

All these are structural problems that require stern, painful change from the top down. But China's answer to many of the problems seems to be, "Let's build another special economic zone." Case in point: the government's ambitious plan to revitalize Shanghai, which is China's largest city, with 12 million people, and home to much of the country's heavy industry and its biggest port. While Shanghai's stylish Western architecture has survived and its economy has thrived in recent years, the old city, once known as the Paris of the East, is simply too crowded and its city services too decrepit to absorb much new growth. So, rather than bulldoze the Bund, the famous phalanx of art-deco office buildings put up along the Huangpu riverfront by foreigners earlier this century, authorities chose to redevelop Pudong, a 135-square-mile area of light industry and rice fields directly across the river.

The government plans to spend $3.7 billion there by 1995, putting up bridges, new thoroughfares, deepwater port facilities, industrial parks, and China's first free-trade zone, where goods could be imported and exported without duties. Japanese department store operators have signed on to build shopping malls, and Hong Kong real estate developers will put up thousands of apartments for sale to hordes of new residents. "Let's build Shanghai into a foreign-oriented, multifunctional, and modern

The future: This computer made by the Stone Group can create ideograms. This one means "endure."

State companies often provide preschooling for workers' children. This class is at Shougang Steel.

cosmopolis," crows one of the many temporary billboards at building sites.

Central to the strategy to revive state-run industry and to counterbalance Hong Kong's influence after it becomes part of China in 1997 is the Shanghai Securities Exchange. A more staid institution than the wild and woolly bourse in Shenzhen, where shareholders rioted this summer, the Shanghai exchange wants to be the home of big domestic industrial companies seeking to tap into China's vast private savings, now that the mounting deficit is forcing the government to curtail subsidies.

So far, 29 stocks are listed on the exchange; nine are special issues called B shares that can be bought by foreign investors. Exchange President Wei Wen Yuan, who had never seen a stock certificate much less set foot in an exchange before the Shanghai bourse opened in late 1990, designed the trading floor to fit into an ornate old theater. Representatives of 136 member brokers squeeze around 200 personal-computer trading terminals, eyes glued to a big electronic screen where the stage used to be. A new trading room will open later this year with 400 more terminals. While trading is less frantic than on the Shenzhen exchange, the SSE index started at 100 in December 1990 and is now above 800.

Shanghai Special Shaped Steel Tube Co. is a good example of a relatively small state-run industrial enterprise that has used the Shanghai exchange to leap toward independence. The maker of nearly 6,000 types of pipes, which expects revenues of about $15 million this year, first decided to start issuing shares in 1988. Last March bureaucrats finally gave the company permission to sell 30% of its shares to the public. (It could offer only A shares, limited to Chinese investors.)

But before managers could get approval to sell its shares, they had to prepare a business strategy that would hold up to shareholder scrutiny. That meant trimming the work force by 200, to 1,100, and setting productivity quotas and profit targets. Says Chairman Wan Meng Lan: "It's not so easy to be a manager anymore, even though I have more authority now. It became clear at the first shareholders' meeting that I have to worry about how we do in the market as much as how we do in the factory."

"IT BECAME CLEAR THAT I HAVE TO WORRY ABOUT HOW WE DO IN THE MARKET AS MUCH AS IN THE FACTORY."

So far, Wan's shareholders have nothing to complain about. The company's shares, which opened at $5.19, were selling for $26.11 in early September. Every employee is a shareholder now. Wan, 50, owns 125 shares.

Sadly, it won't be easy for most of China's heavily subsidized state enterprises to work that kind of stock market magic. Says a Western diplomat: "The problem is, the state enterprises are more like enormous feudal villages than modern corporations. They have to provide housing, recreation, hospitals, parks, and all manner of services, sometimes for hundreds of thousands of employees and their families. Consequently, it's not a simple matter of privatizing them, because who would want to buy a dinosaur company with dated technology and all that overhead?"

Managers of these enterprises are inclined to turn them into even bigger conglomerates that sometimes turn out like caricatures of Japan's famed keiretsu. A prime example is Shougang Corp., the government's showcase steel company in Beijing. Since economic reforms started in 1979, the company has branched into hotels, banking, machinery making, mining, shipbuilding, shipping, electronics, and even fashion design.

To its credit, Shougang's steel, made with Belgian equipment, is high quality. The company's 206,000 employees earn salaries 80% higher than the national average and have better housing, health care, and education than most Chinese. In 1991, the company exported $210 million of steel and earned $287 million on $1.69 billion in sales.

But Shougang is an exceptional case and owes much of its success to tax breaks and exemptions from government price controls. The government, nevertheless, holds Shougang up as an example of what state businesses ought to be, much to the chagrin of managers of other state enterprises. A top executive at a competitor calls Shougang "an exercise in political egotism" and contends that "much of Shougang's success comes at the expense of other state-run enterprises that supply it or compete with it."

Thankfully for China there's much more to the economy than giant, state enterprises. The biggest success stories in China are its small businesses, which rely on hard-headed entrepreneurship, rather than stock markets, subsidies, and special economic zones, to get ahead. Most are what the Chinese call

contract enterprises. They are the industrial offspring of the earliest experiments with free enterprise, under which individual farmers could contract with a township or village to cultivate plots of land. They paid a specified sum, usually around 10% of profits, and pocketed the rest.

With industrial contract enterprises, it's only a bit more complicated. First you need a bright idea for a business, say, making wedding gowns or photo enlargers or factory assembly equipment or personal computers. It is important to avoid products that fall under government price controls or are made of materials that are rationed. Then you get a loan commitment from the township or village bank, usually on the order of $1,800 to $2,000. Next you go to your township governor or village mayor to present your business plan and work out a contract for the amount of money you will "contribute." Smart entrepreneurs low-ball their projections, because future payments increase incrementally from the original sum. After that it's up to you.

So how do they work in real life? Like gangbusters. Just ask Wang Jia Ying, 34, a former waitress from Shanghai who turned her passion for fashion into ZhiMeiNai, a producer of Western-style wedding gowns and formal wear for Chinese movie studios. ZhiMeiNai operates out of a country courtyard villa outside Hiqui, a farming community of 13,000 people, 100 miles west of Shanghai. Posters of Fred Astaire and Ginger Rogers decorate the walls.

"THOUGH WE BUILT THE COMPANY, THE GOVERNMENT SAYS IT BELONGS TO THE PEOPLE—IN OTHER WORDS, THE STATE."

Wang started the company in 1988, at first employing only herself, her husband, and two retired tailors. Says she: "We are completely self-made people. We had nothing at first and knew nothing about business except what we had read. All I knew was that designing clothes is fun." Now ZhiMeiNai employs 50, mostly young women. Their average salary—$1,100 to $1,555 a year, plus free housing and health care—is triple the national average. ZhiMeiNai's 1991 revenues were about $150,000 and profits $37,000, before paying the $5,000 promised to the township.

Contract enterprises needn't be small or low tech. Stone Office Technology and Equipment Co. of Beijing, a producer of personal computers and word processors, is neither. It has 3,100 employees and sales in 1991 of more than $425 million. Stone even has a subsidiary in Australia. The big sellers are machines that can manipulate Chinese ideograms as well as Roman letters and conventional numbers.

Stone was one of the earliest contract enterprises to go industrial. Founded in 1984 by three former college roommates, it started out assembling Japanese computer printers but soon began building the printer mechanisms into full-blown computers of its own design. While business has thrived, the founders have not had an easy path. In 1989, then-president Wan Runnan fled after giving computers and moral support to student pro-democracy protesters. Wan, now living in Paris, remains on China's list of most-wanted political fugitives, and officials at Stone don't like to talk much about him.

Since then, another co-founder, Duan Yongji, 46, a dapper engineer who formerly worked in China's aeronautics ministry, has been president. Duan has spent a lot of time since Wang's exile keeping the government's nose out of Stone's business. "Our ownership is murky now," says Duan. "Even though we borrowed the money and built the company ourselves, the government

Shanghai, once called the Paris of the East but now feeling its years, will soon get a $3.7 billion face lift.

says Stone belongs to the people—in other words, the state. But we have always wanted the company to be owned by private shareholders. I say the government is welcome to ownership of Stone only if it is willing to buy our shares." So far the government hasn't allowed Stone to sell shares to the public, and as a result, Duan and his partners don't know whether they'll ever profit personally from their entrepreneurship.

Even so, Duan lives lavishly, at least by Chinese standards. Though his salary is only about $2,000 a year, the company provides him with a shiny Mercedes-Benz, a cellular phone, a roomy house, and $2,000 a month in travel and entertainment expenses. What's Duan's biggest concern? "It isn't the government. I worry more that foreign joint ventures moving into China will overwhelm us with their superior technology and higher salaries."

His fears are not unfounded. Western and Japanese companies have discovered that despite China's backward reputation, among its 1.17 billion people are quite a few computer nerds and technical whizzes. Two years ago Omron Corp., a Japanese maker of medical instruments and computer systems for banks, set up a joint venture software development laboratory in Shanghai to find out if Chinese programmers could turn out worldclass software. Now the venture, called Omron Shanghai Computer Corp., employs 70 people. According to President Bao Shuping, quality and productivity exceed that of Omron's labs back in Japan. Bao brags: "Everybody here but the driver has a university degree, and 50 of them have graduate degrees. Can you name another company with credentials like that?"

While China's main lure is cheap labor, many like Bao wish they could pay their Chinese employees more than they do. Says he: "I have a big problem with China's irrational income tax policy, because it doesn't let me reward my people directly for doing good work. Every yuan they make above 800 yuan (about $150 a month) is taxed at 60%. That forces us to provide hidden income in the form of nicer homes, free vacations for families, expense accounts, and occasional trips abroad. It would be so much simpler just to pay them more." The average salary, not including hidden income, for Omron's Chinese engineers is 700 yuan a month—about $130—or roughly four times the national average.

The Omron venture is small potatoes compared with other foreign high-tech investments. One of the biggest is Motorola's $120 million pager, cellular phone, and semiconductor plant in Tianjin, a coastal city about 100 miles from Beijing. Motorola, which broke ground for the plant this summer, is one of only a handful of Western companies allowed to own its facility outright rather than as a joint venture with a Chinese outfit.

Even with full autonomy, getting a high-tech venture going in China is a challenge. Surprisingly, the biggest headaches aren't technical ones. Says Daryl Despain, Motorola's controller in China: "Our No. 1 problem is the housing issue, and that is really all kinds of problems rolled into one." Rather than following the time-honored practice of providing houses for workers, Motorola wants to help them buy their own homes. Says he: "The temptation for a company is just to build dormitories and apartments, but that is not the right thing to do for our employees. We think home ownership is good for people."

Despain also can foresee problems meeting China's stringent export quotas for foreign ventures. The pager plant is supposed to export 70% of its production of 3,000 units a week. But with phone service so unreliable in China, domestic demand for pagers is heavy. One distributor has offered to buy all the devices the company can make. As much as Motorola would like to comply, it can't. Also, Despain says China's confusing foreign exchange rules and dual currency system—one kind for Chinese citizens, one for foreigners—make it difficult to keep enough of the right kind of cash on hand.

Regardless of the problems, there is a bright side. In late August, Motorola opened the temporary pager plant that will make the devices until the new factory is finished next year, and within just three weeks, workers had matched the quality of a sister plant in Singapore. Says Despain with a shrug: "I've never done anything so frustrating that I enjoy so much."

That's the sentiment of just about everybody involved with the lurching economic reform in China. Despite the lousy infrastructure and the bureaucratic impediments, the political uncertainties and the cultural contradictions, China's small successes and big ambitions are ever so slowly beginning to confirm that its fabled economic potential is for real. Now if only they could do something about the traffic . . . F

VITAL STATISTICS

1992 PROJECTIONS

Population: 1.17 billion
Population growth: 1.4%
Unemployment rate: 2.5%
GDP per capita: $302
Foreign Direct Investment: $5.5 billion
Government Budget Deficit as % of GDP 4% ($14.1 billion)
Inflation rate: 7%
Foreign debt: $65 billion
Exports: $83 billion
Imports: $71 billion

Source: U.S. Embassy, Beijing

Bicycles
Carpets
Cotton cloth
Electronic watches
Garments
Gold jewelry
Shoes
Steel products
TV sets

CHINA'S MAJOR EXPORTS AND COMMODITIES
Harbin
NORTH-EAST CHINA
Shenyang
NORTH CHINA
Beijing
Tianjin
Taiyan
NORTH-WEST CHINA
Lanzhou
X'ian
Nanjing
Shanghai
Wuhan
Lhasa
SOUTH-WEST CHINA
Chengdu
EAST CHINA
CENTRAL-SOUTH CHINA
Fuzhou
Guiyang
Kunming
Cotton
Tea
Rice
Soybeans
Tobacco
Wheat
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OCTOBER 19, 1992

VOL. 126, NO. 8

FORTUNE

SPECIAL REPORT

ABOVE: American voters want a candidate with a real agenda for fixing the nation's economy—and a willingness to make tough decisions. Photo by Jeff Mermelstein.

"If each new President insists that America has no economic problems, then there are no political solutions to America's economic problems." 48

AMERICA AT A CROSSROADS 48
Our economic problems—stalled job growth accompanied by a national debt of $400 billion a year and an alarming dearth of savings and investment—are pressingly real. The U.S. needs a new economic agenda, and elected officials who face reality. At stake: the mantle of world leadership. *by John Huey*

PRODUCTIVITY: FIRST BUT FADING 54
Largely due to their flexibility, America's companies are the world's most productive—but that lead is eroding. Unless the U.S. fixes some serious weaknesses, its standard of living is at risk. *by Thomas A. Stewart*

WHERE WILL THE JOBS COME FROM? 58
Big companies are destroying jobs, small firms aren't hatching them, and wages are falling. Part of the solution: better schools and more training. *by Ronald Henkoff*

HOW TO KEEP EXPORTS ON A ROLL 68
Trade is going America's way right now, and the key to maintaining momentum is to push for open global markets. *by Brian O'Reilly*

WHAT THE U.S. CAN DO ABOUT R&D 74
Here's how government and business can put research and development, one of the great U.S. strengths, to even better use. *by Lee Smith*

LET'S GET REAL ABOUT TAXES 78
Neither Bush nor Clinton proposes the right mix to spur economic growth and cut the deficit. There's a better way to go. *by Joseph Spiers*

TAKING ON PUBLIC ENEMY NO. 1 84
By paying the price of some economic discomfort now, we could avoid the certainty that our offspring—and today's workers in their retirement—will face even more pain tomorrow. *by Rob Norton*

THE RIGHT CURE FOR HEALTH CARE 88
An aging population with nearly unlimited access to high-priced doctors and technology is pushing medical costs skyward. Managed care is the best way to bring them down. *by Lee Smith*

REPAIRING OUR INFRASTRUCTURE 91
Politicians love sinking vast sums into new projects. We'd be better off if they spent the money fixing up old investments. *by Suneel Ratan*

BRINGING REASON TO REGULATION 94
Constructive regulatory reform means finding ways to identify the worst problems and solve them at the lowest cost. *by Louis S. Richman*

NEXT STEPS FOR THE ENVIRONMENT 98
With money scarce, cleanup efforts must be carefully ranked and funded accordingly. *by Faye Rice*

"Owners should save money in separate pet accounts for their health and funeral expenses." 12

"Our goal is to reinvent ourselves. That's how you achieve productivity." 54

"For many employees flexibility is just a euphemism for getting fired or for having a job with no benefits." 58

"The American public needs to be told we are in deep trouble and have some strong fiscal medicine to take." 84

"We don't have to wait a whole generation to go to Mars." 120

"We knew the food we ate at the end of the day was contingent upon what we did during the day." 129

MANAGING

HOW TO STEAL THE BEST IDEAS AROUND 102

Benchmarking is a perfectly legal way of copying the smartest business practices. Ford Motor, Xerox, AT&T, Motorola, Du Pont, and others are using it to bound ahead. *by Jeremy Main*

INNOVATION

PRODUCTS TO WATCH 109

Sony's portable CD-ROM player, Frito-Lay's super-thin tortilla chips, childproof software to protect your files, and more. *by Alison Sprout*

CORPORATE PERFORMANCE

HIT 'EM WHERE THEY USED TO BE 112

Rally's has become one of the fastest-growing restaurant chains in the country by focusing on price, quality, and speed of service. *by Nancy J. Perry*

JUMPING AHEAD BY GOING HIGH TECH 113

Pitney Bowes's new postage meter is putting a high-tech stamp on its maker. *by Mark Alpert*

HOW HARD IT IS TO CHANGE CULTURE 114

Is Philips nimble enough to stay competitive in consumer electronics? *by William Echikson*

COMPANIES TO WATCH 115

EXECUTIVE LIFE

THE NEW PAY GAME . . . AND HOW YOU MEASURE UP 116

The manager's job has changed, and so have the rules used to determine who earns what. Your financial future could depend heavily on how well you master them. *by Kenneth Labich*

TECHNOLOGY

TECHNOLOGY TO WATCH 120

Experts at Martin Marietta have a plan that could save billions by using a spacecraft that makes its own fuel for a return flight from Mars. *by Mark Alpert*

DEPARTMENTS

EDITOR'S DESK 4

Pursuing the journalism of ideas.

INDEX 8

NEWS/TRENDS 12

Lessons from the currency commotion across the Atlantic, Detroit short on new models, the banks sing credit card blues, curling up with an electronic book, Japan's pets a-saving, and more.

FORTUNE FORECAST 21

How Europe's currency crisis helps American business. *by Vivian Brownstein*

PERSONAL INVESTING 27

Send your money abroad: You could be doing better in other countries' markets. *by Joshua Mendes*

Also: The risk in savings bonds, the profits in Europe's chaos, and Portfolio Talk with Milwaukee's Albert Nicholas of Nicholas Co.

LETTERS TO FORTUNE 121

FORTUNE PEOPLE 129

Paul Erdman writes a new thriller, a New Orleans family's triumph, and more. *by Laurie Kretchmar*

KEEPING UP 131

The spanking of a President, criminal twins, great moments in election finance, the latest threat to baseball, and other matters. *by Daniel Seligman*

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EDITOR'S DESK

A MODEST UNDERTAKING

LAST SPRING when Marshall Loeb, our managing editor, conceived the special report beginning on page 48, he gave it the working title "An Agenda for America." He explained the timing of the project, the reason for it, and what he wanted: By October, as the election approached, the candidates would be kicking up a rhetorical dust storm, he calculated, obscuring one issue after another. Our readers might be left wondering about the true state of U.S. industry, say, or the actual import of the federal budget deficit. Get the facts, he told us, and use them to cut through the controversy. Then identify the biggest challenges that face the U.S. and tell our audience how best to address them.

About half the fix-it team—the rest were still out scouring.

As writers and reporters proceeded with this modest undertaking through the course of the summer, we found our focus sharpening. On an office wall at Clinton headquarters hangs an increasingly famous sign reminding them of their central issue: THE ECONOMY, STUPID. That's also what we found the people we talked to—in business, government, academia, and on the street—most worried about. Hence our new thrust and title: "Fixing America's Economy."

Upward of a dozen of our staff scoured the country for incontrovertible figures, the freshest thinking, and the latest cuts at the data. We were rewarded with some surprises: U.S. productivity remains strong, but recent improvements have a scary underside. Some of the candidates' most ballyhooed proposals for the economy stand little chance of working. Filling in potholes beats mega-investment in infrastructure. In all this, we attempted to do what Marshall constantly urges on us: Pursue the journalism of ideas. Somebody defined intelligence as the capacity to surprise. We hope you'll find plenty to think about, and quite a few surprises, in our special report.

It's always surprising to see so-called everyday reality through the eyes, or camera lens, of someone with a unique take on the world. To illustrate our report, picture researcher William Nabers commissioned New York photographer Jeff Mermelstein. To quote Nabers on Mermelstein: "His pictures show a real affection for the strengths and foibles of the American character." We think that shows on the pages that follow.

Jeff Mermelstein

ASSISTANT MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October, by Time Inc. Principal office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., Chairman; Don Logan, President; Joseph A. Ripp, Treasurer; Perry M. Johnston, Secretary. Subscriptions: U.S. (announcement issue plus 27 issues) $52.95; Canada (one year [27 issues] $53.73). Second class postage paid at New York, NY, and at additional mailing offices. Authorized as second class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member, Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer inquiries: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000. © 1992 Time Inc. All rights reserved. FORTUNE is a registered mark of Time Inc.

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U.S. PRODUCTIVITY: FIRST BUT FADING

America's workers are the world's most productive—but the nation's lead is eroding. Unless the U.S. fixes some serious weaknesses, its standard of living is at risk. ■ *by Thomas A. Stewart*

WHEN YOU come down to it, the purpose of work and investment is to live well today and better tomorrow. That depends on each worker and machine yielding a growing output of ever more valuable goods and services—in other words, rising productivity. For America to retain the world's highest standard of living, its factories, stores, and offices must be the most productive in the world. Says General Electric CEO Jack Welch: "For a company and for a nation, productivity is a matter of survival."

The U.S. is surviving pretty well, thank you. According to Organization for Economic Cooperation and Development data, the average American worker produced $45,100 of goods and services in 1990, vs. $37,850 for the average German worker and $34,500 in Japan, where workers toil more hours per year. The figures are particularly useful because they're adjusted for purchasing-power parity, eliminating distortions caused by exchange-rate fluctuations.

Labor flexibility is the biggest reason for the U.S. advantage, says Bill Lewis, a partner at McKinsey & Co. who has been studying international productivity. American business is much freer than most competitors—which are often restrained by unions, social policies, and regulation—to hire and fire, reorganize, and deploy resources where they will be most productive.

Being king of the hill is great, but the good news disguises three disquieting

■ RUBBERMAID

facts. First, U.S. productivity is improving more slowly than before and slower than its rivals'. Second, American business does a terrific job of increasing productivity by cutting inputs like labor but needs to work on the output side by investing in people and innovation. Third, productivity growth has been a sluggard in the service sector—the economy's largest. Unless these trends change, Americans' standard of living is at risk.

Productivity is output divided by input. That's simple; getting accurate numbers is not. Outputs of goods and services that can't be quantified in market-determined dollars—as they often can't be within companies—have to be adjusted for quality and other indices of the value added; inputs can be measured as labor, or labor plus capital. After you measure them, do the arithmetic. If your company increases output while holding input steady, productivity goes up; if it cuts input without losing output, productivity goes up. If it does both—raises output while cutting input—buy the stock.

Take the math a step further to find the standard of living. When a company lays off an employee who labored mostly as a greeter at the water cooler, national productivity rises: same output, less input. But until he finds new, useful work, the standard of living—GDP per capita—hasn't changed: same output, same population. Living standards won't improve until investment, innovation, entrepreneurship, and other engines of growth put people to work creating outputs that weren't put out before.

America's lead is good news, both for its competitiveness and its standard of living, only if productivity is rising. Rising it is, but slowly. As measured by the U.S. government, output per hour, which grew 3% a year from 1937 through 1973, has risen sluggishly since, just 0.9% a year. Improvement slowed in other big economies too, but not as much. The OECD (which measures output per employee) says U.S. business sector productivity rose 0.5% a year from 1979 through 1990, while West Germany's increased 1.6% and Japan's 3%. In the long run, that's trouble.

No one knows why America's productivity growth stagnated. Economists used to blame the oil shocks of the Seventies, but productivity growth didn't perk up when petroleum prices fell. Better candidates are insufficient private and public investment combined with tens of millions of new workers—women, baby-boomers, and immigrants—whose need for jobs held wages down and lessened the pressure on management to increase each worker's efficiency. Adds Martin Baily, an economist at the Brookings Institution: "In the Fifties and Sixties there were opportunities that just don't exist now. Utilities and chemicals got big gains by building huge plants and refineries. With smaller plants and specialty chemicals, productivity growth has to come from skills, not scale."

The second worry: U.S. manufacturing investment is low, jeopardizing future gains. It's true that manufacturing is America's productivity star. Superb new data developed by a team at the University of Groningen in Holland show U.S. manufacturing at the head of the class in every industry category but one (see chart). After stumbling badly in the Seventies, output per hour danced ahead 36.6% from 1982 to 1990, according to the Bureau of Labor Statistics. That handily beats Germany's 26.2% and nearly matches the 38% gain in Japan. All in all, says Baily, manufacturing productivity growth in the Eighties "was about as good as in the glory years of the Fifties and Sixties."

Through takeovers, lopping off non-core businesses, scouring away bureaucracy, process redesign, and plain old downsizing, manufacturing cured itself of the dropsy that afflicted it the decade before. That's cold comfort to the millions who lost jobs, but American manufacturing is more productive as a result.

Trouble is, smokestack America isn't cranking up output as much as its increased efficiency would permit. From 1980 through 1990, U.S. industrial output rose only three-quarters as fast as manufacturing productivity. In Japan, by contrast, industrial output and productivity grew in lock step. As U.S. manufacturers cut payrolls, they also put the brakes on capital spending and research. As a percentage of GDP, U.S. private nonresidential fixed investment has been the lowest among the Group of Seven nations for the past five years; at 10.7% last year, it was just half Japan's. The average age of capital stock at nonfinancial U.S. corporations is now 8.52 years, the highest since 1965.

One result: The typical machine tool in an American factory is seven years older than in Japan, and two-thirds of all metal-forming machine tools in use in America are more than ten years old—this amid a revolution in machine-tool technology. New computer-controlled tools are so much better than their predecessors that Brian Papke, president of the American branch of Japanese toolmaker Yamazaki Mazak, tells customers that the surest path to success is to rip out old equipment and *give it away* to rivals.

Productivity rocket ship Rubbermaid (five-year average annual growth in output per hour: 21.4%) is an outfit that doesn't stint on new machines. In 1990, certain that recession had taken hold, the company upped its 1991 capital budget 30% rather than cut, as most U.S. corporations did to protect short-term profits. While Rubbermaid doesn't give away its hand-me-downs, it turns them over to brokers to sell, and competitors are welcome to them. Says President Wolf Schmitt: "Our goal is to reinvent ourselves. That's how you achieve productivity." But Rubbermaid is an exception.

Also worrisome is the need to tweak up corporate research and development. Using Census Bureau data on 20,000 factories, professor Frank Lichtenberg of Columbia University's business school

INSIGHTS

- **U.S. manufacturing and services rank first in productivity.**
- **But productivity improvement has slowed. Japan, Germany, and other competitors are gaining.**
- **U.S. business raises productivity well by cutting inputs, but only investing more in people and innovation to increase outputs will raise living standards.**

REPORTER ASSOCIATE *Patricia de Lissa*

found that a dollar invested by business in R&D yields productivity gains approximately eight times greater than a dollar invested in plant and equipment. But too often in the U.S. those dollars have gone to the wrong products or industries, and the growth in private R&D spending—which is much more efficacious than government R&D—has fallen off dramatically since the mid-Eighties (see "What the U.S. Can Do About R&D").

THE THIRD unwelcome trend is in services, which employ four-fifths of the work force. Measuring services' output is so difficult, mostly because it is often intangible, that data don't exist for about 70% of service output—including insurance, government, health care, and the professions. Yet U.S. services must be comparatively productive. Explains McKinsey's Lewis: "The U.S. lead over Japan and Germany in manufacturing productivity is not large enough to explain the gap at the GDP-per-employee level. Therefore we must have a lead in services." Considering aggregate GDP figures, and taking into account the size of the service sector in the U.S. compared with those of other advanced nations, Lewis estimates that the U.S. has a 15% to 25% edge in service productivity.

However strong it is, this Achilles has a heel. Most evidence suggests that service productivity growth has been dismal. Economist Stephen Roach of Morgan Stanley calculates that private-sector service output per hour grew 0.7% a year in the 1980s (vs. 3.8% in manufacturing). Says James Trice, a vice president of Gemini Consulting who is an expert in insurance: "Most executives are still in the denial stage. They won't face up to the fact that they're not competitive."

Plenty of data back him up. In the Eighties, according to the BLS, output per hour in U.S. auto factories went up 43%; dealers and repair shops, however, improved just 18% and 7.5% respectively. Productivity growth in petroleum refining, 37%, more than doubled the 18% gain for petroleum pipelines, a service business.

The most stark evidence is what's happening to employment in services. The grim list of recently announced, permanent staff cuts at service companies—1,900 at Nynex, 4,800 at Aetna, 3,500 at the Travelers, 48,000 at Sears—is proof that the service sector had plenty of fat to trim.

In the Nineties, the knives are out. The reason: competition. Big chunks of the service economy—telecommunications, transportation, banking, insurance—have seen government regulation lifted or loosened, destroying cushy markets. Often the competition is global. For example, foreign banks' share of commercial and industrial loans to U.S.-based business jumped from 18% in 1983 to 45% by the end of 1991.

Responding to this tough new world, smart companies aren't just trimming, they're rethinking the way they work. As a result, they are at last beginning to benefit from their gargantuan investments—$862 billion in ten years—in information technology. A lot of this equipment did nothing for productivity because it was bought without thought for whether the newly automated processes were required at all. Says William Wheeler, a consultant at Coopers & Lybrand: "That's putting whipped cream on garbage."

Garbage—or something like it—was what the Bank of Boston found when it looked at its securities-processing business late in 1989. The business handles stock transfers, dividend and interest payments, pension plan administration, and related tasks—about 25 million transactions a year. It had six separate operations, each with its own mainframe, scattered over 11 locations. Work for one customer could shuffle through several systems—one for dividends, another for stock sales, a third for bond interest—costing time, labor, and money at each point.

Working with Coopers & Lybrand, the bank put everyone in securities processing at one location with two computer systems and set up the work around its core process, moving money. Computer cables run across the ceiling like track lighting, allowing the bank to change the layout overnight. The idea was to mimic a just-in-time, flexible factory. Says senior vice president John Towers: "We created a utility that could service all the product lines." Productivity soared: After 2½ years, with 17% fewer employees, the division does 80% more securities-processing business.

Thousands of service companies are starting to see such results. If gains in the first half of 1992 continue, nonmanufactur-

Service ace: A high-tech office and new work processes gave Bank of Boston huge productivity gains.

ing productivity will leap 2.5% this year. But beside the river of opportunity sits the Lorelei that seduced manufacturers: restructuring without investing in growth. Says Gemini's Trice: "We're going to see productivity increases—and it's about time, it was ridiculous—but if we're not careful we'll just downsize and spin off lines of business." Such a "slash-and-burn approach," Morgan Stanley's Roach warned Congress earlier this year, could cost the economy four million new jobs by 1997—"a steep price to pay for faster productivity growth."

HOW TO QUICKEN productivity's rise? Through work-redesign concepts like lean production, total quality management, and process reengineering, business knows more about how to cut inputs than ever before. Process reengineering, for example, usually eliminates many low-added-value jobs, replacing them with a few high-skill jobs. Consultants who do this work boast of quantum leaps in productivity. Privately, some worry. Says one: "How high does structural unemployment have to get before the social cost is too great?"

Fixing America's productivity problem means raising output faster, not just cutting inputs. The place to start is the federal deficit, which is the biggest source of disinvestment, soaking up savings faster than a Bounty towel does coffee. Government must also do more to enhance domestic private investment through policies that encourage capital formation, research, training, education, and entrepreneurship. The aim, besides boosting output, should be to ease the burden on those who are hurt by cuts in input while maintaining the flexibility that is America's great asset.

A long list of laws, incentives, habits, and regulations discourages investing for the long term. Among them: capital gains taxes that aren't indexed to inflation; state incorporation laws that require companies to pursue shareholder value but don't protect companies against lawsuits if they go for long-term growth rather than quick stock-price gains; the Glass-Steagall Act barring commercial banks, which might take the long view, from holding equity stakes in corporations; mutual funds that compete for new investors on the basis of quarter-to-quarter results; accounting rules that keep intangible investments like R&D off the balance sheet while docking it for potential liabilities like retiree health costs. There are good reasons for most of these, and some are more important than others. But, as Harvard business school professor Michael Porter argues in a new report for the Council on Competitiveness, a private Washington, D.C., group, together they and other laws and customs encourage American business to live for today rather than build for tomorrow.

Changing corporate grasshoppers into ants is delicate work. But a number of steps can be taken immediately, such as enacting tax credits for new plant and equipment—preferably aimed at new or small business—and, especially, a permanent tax credit for R&D.

America must also build its intellectual capital stock. A study by James Rauch of the University of California at San Diego ranked several American cities by the average level of education of their work forces, then compared their productivity. For every additional year of schooling, Rauch found 2.8% greater productivity. That's not only because educated workers do any old task better; good workers also beget better jobs. Highly skilled people attract investment in high-tech, high-productivity industries and could enable other industries, like textiles, to return to these shores by substituting smart labor for cheap.

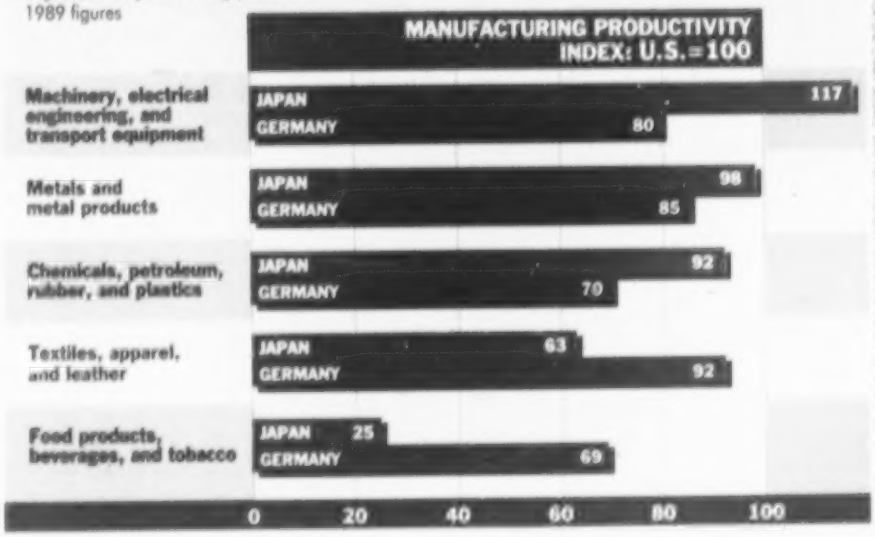
Training has similar benefits. In Boynton Beach, Florida, Motorola can make 200% more pagers than it could four years ago with just 22% more manufacturing employees. Says general manager Hector Ruiz: "The factory doesn't look much different. The improvement came about through training. Our return on training is on the order of 30 to 1."

AMERICA NEEDS more incentives for skill building (see following story). A laid-off worker who goes to school to learn new skills has to lie about it or lose her unemployment check—an easy-to-fix disincentive. State and local governments might want to increase support for community colleges, which as employee training institutions can be a powerful attraction to business. The feds should consider industrial extension programs modeled on those of the Department of Agriculture. To encourage training, companies should be required to disclose what they spend on it in their published accounts.

Here's how one business titan put the productivity imperative: "Cutting wages does not reduce costs—it increases them. The only way to get a low-cost product is to pay a high price for a high grade of human service and to see to it through management that you get that service." The man who said it? Henry Ford. As much as anyone, he helped create a mass consumer market of well-paid workers. But how many executives in the U.S. today remember Ford's point? ■

U.S. PRODUCTIVITY STACKS UP STRONG

Productivity measured by gross value added per hour at manufacturing site, adjusted for purchasing power
1989 figures



BRINGING REASON TO REGULATION

It doesn't have to be at odds with economic growth. Constructive regulatory reform means finding ways to identify the worst problems and solve them at the lowest cost. ■ *by Louis S. Richman*

AMERICA'S capitalism at its best—the freewheeling, entrepreneurial kind—has traditionally thrived most when it has been regulated with a light touch. Not unregulated—laws have made the environment cleaner, the workplace safer, and the consumer healthier than the unguided invisible hand could have. But now the touch has become expensively heavy.

In the regulatory arena America's admirable can-do spirit too often has become a must-do mentality: If it can be done, it must be done, regardless of the cost. Making matters worse, the process has become increasingly adversarial, partly because so much of it has moved into the courts.

Regulation and vibrant economic growth don't have to be at odds. In nations we compete with, such as Germany and Japan, regulators more often work cooperatively with business. The goal is to solve problems, not fix blame. Constructive regulatory reform, in this spirit, deserves a place high on the agenda for the next Administration.

Though the costs to the U.S. of regulation are impossible to pinpoint, the most comprehensive and widely accepted estimate comes from Rochester Institute of Technology economist Thomas D. Hopkins, a former Office of Management and Budget deputy administrator. He puts the 1991 pricetag at more than a half-trillion dollars—nearly 10% of the nation's gross domestic product. The largest and fastest-growing components: health, safety, and the environment.

Hopkins's estimate doesn't try to quantify the offsetting benefits. The total includes the good, the bad, and the ugly together—nobody can calculate how much *over*regulation costs. But here's a clue. The U.S. will spend some $1.6 trillion on environmental cleanup during the 1990s. Hopkins projects—roughly a third more in constant 1991 dollars than during the past two decades combined. The money isn't likely to yield the kinds of benefits the first tranches of money spent on environmental regulation bought us. The big gains have been won at costs that now look relatively low, and in many cases we're chasing after marginal improvements. Says Robert N. Stavins, an economist at Harvard's Kennedy School of Government and head of Project 88, a bipartisan environmental research group: "Getting the next 5% improvement could send costs through the roof."

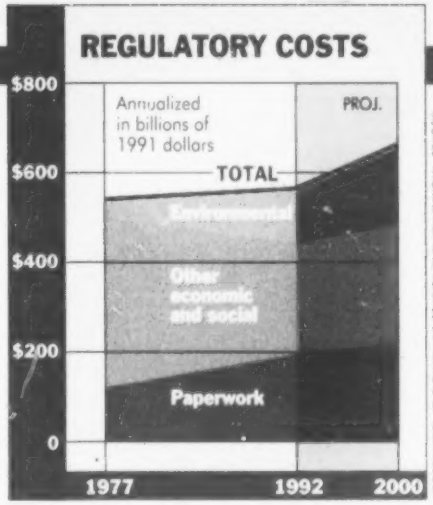
A mere dollar reckoning of costs, moreover, doesn't measure the full weight of the federal regulatory burden. Says Robert W. Hahn, an economist at the American Enterprise Institute, a market-oriented Washington, D.C., public policy research outfit: "The measurable costs of regulation pale against the distortions that sap the economy's dynamism. The public never sees the factories that weren't built, the new products that didn't appear, or the entrepreneurial idea that drowned in a cumbersome regulatory process."

The burden is especially rough on the small companies that before the recession were the nation's great job generators. The National Federation of Independent Business, a Washington trade group representing some 600,000 smaller employers, has been polling its members about their biggest business problems for two decades. This year, for the first time, regulation rose to the top of the list—ahead of taxes, the quality of labor, and the availability of credit. The smallest businesses are so overwhelmed now, says NFIB economist Thomas Gray, that they are taking to just ignoring the laws. "They're saying, in effect, 'Catch me if you can. I'll pay the fine,'" says Gray. "We're very close to a breakdown in the public's acceptance of the government's authority."

Small-business people are often the victims of regulations intended for large malefactors. The Financial Institutions Reform, Recovery, and Enforcement Act (Firrea)

■ WHEELCHAIR ACCESS, WASHINGTON, D.C.

REPORTER ASSOCIATE *John Labate*



Congress passed in 1989 is a case in point. Bank regulators now insist that the lending institutions they oversee pay a federally certified appraiser to value real estate put up as collateral for any loan over $100,000. The average $5,000 cost of such an appraisal can price a small business out of the market. Typically, the entrepreneurs put up their homes, and the default rate on small business loans poses little risk to the banks. The banks themselves could do the appraisals at a tenth of the cost.

Just trimming back the regulatory overgrowth would be difficult. But the next President will have to contend with major new laws—such as the Americans With Disabilities Act and the 1990 Clean Air Act, which have yet to be fully translated into rules for business and local governments to meet. Paul R. Portney, a senior fellow at Resources for the Future, a nonpartisan environmental economics research group in Washington, says the act is one reason Americans will be spending 2.8% of GDP to comply with federal environmental mandates by the end of the decade. Germans are no less green and face a monumental challenge in cleaning up the former East. Yet, Portney estimates, Germany will be spending 1.6% to 1.8% of GNP. None of these estimates include the unknown potential cost of legislation being considered that would impose tough recycling standards on the packaging industry, or whatever actions are taken to tackle global warming.

Since the challenge for public policy is to spend money where it will do the most good, federal regulatory reform should be guided by two objectives—effectiveness and efficiency. Where to begin? First, by getting the agencies—especially the Food and Drug Administration (FDA), the Occupational Safety and Health Administration (OSHA), and the Environmental Protection Agency (EPA)—to set sensible priorities.

Too many regulatory edicts are based upon unrealistic estimates of actual consumer, occupational, and environmental health risks. Most industrial countries limit exposure to hazards to tolerable levels. The U.S., by contrast, sets far more stringent "virtually safe doses." This mind-set dates back to 1957, when the Delaney Amendment required that any known carcinogen be eliminated, no matter how small or limited the exposure. But British researchers Richard Doll and Richard Peto, whose work is widely accepted on both sides of the Atlantic, have found that fewer than 9% of all cancer deaths can be attributed to pollution, contaminants on the job, food additives, or medications. Smoking and bad diet, by contrast, may cause nearly two-thirds of all fatal cancers.

Unrealistic goals can keep an agency from doing anything to improve safety. In 1989 OSHA tried to set standards for 428 common toxic air contaminants that, it estimated, could have saved some 700 workers' lives a year at an average cost of $1 million each. A federal court rejected the plan because it didn't set the requisite technically "feasible" limits. But to do that, OSHA would have had to run lengthy and expensive analyses of each contaminant. Result: no standards at all.

The President—any President—could bring balance to the no-risk-too-small attitude with the stroke of his pen, argues Thorne G. Auchter, a former OSHA director who heads a nonpartisan Washington research group called the Institute for Regulatory Policy. All it would take is an executive order requiring agencies to write and revise rules on the basis of uniform, scientifically sound risk-assessment guidelines.

continued

HOW THE COSTS VARY

REGULATION	AGENCY	ANNUAL NUMBER OF DEATHS per 100,000 of exposed population	COST PER LIFE SAVED
Mandatory seat belts for cars	National Highway Traffic Safety Administration	9.1	$390,000
Prohibitions on alcohol and drug use by railroad employees	Federal Railroad Administration	0.2	$650,000
Control and disposal standards for benzene	Environmental Protection Agency	2.1	$4 million
Disposal standards for uranium mine wastes	Environmental Protection Agency	43.0	$69 million
Restrictions on worker exposure to asbestos	Occupational Safety and Health Administration	6.7	$117 million
Restrictions on worker exposure to formaldehyde	Occupational Safety and Health Administration	0.1	$94 billion

These would be developed by the White House Office of Science and Technology Policy, headed by the President's science adviser. Thus determined, priorities would reflect the areas of greatest danger rather than the wishes of the interest group that makes the shrillest pitch to Congress.

WITH RISKS more clearly defined, policymakers could better subject new regulations to rigorous cost/benefit analysis. It's not a new idea. President Jimmy Carter ordered executive branch agencies to evaluate the costs and benefits of their proposed edicts. Ronald Reagan established the Office of Independent Regulatory Affairs (OIRA) within OMB to review new mandates costing over $100 million and to suggest ways to make them more economical. Both of those promising efforts withered during the Bush Administration, though blame falls as much on Congress as on the President. The White House Council on Competitiveness, headed by Vice President Dan Quayle, has racked up a few successes in tempering regulation, but its resources are limited. More important, Congress and groups lobbying for regulation don't trust it because it is not subject to the same public disclosure process as OIRA.

As part of the solution, Bush or Clinton should rehabilitate OIRA's authority. But Congress has to help out by subjecting pending legislation to cost/benefit tests before it becomes law. Says former Reagan Administration EPA director Lee M. Thomas, currently CEO of the Kennesaw, Georgia, consulting firm Law Companies Environmental Inc.: "Right now Congress is more interested in dictating solutions than in defining the problems and measuring the damage they cause the private economy."

And how. The Americans With Disabilities Act incorporates fuzzy goals based on undefined standards of reasonableness —the courts will often have to decide what is "reasonable." No one can guess the ultimate costs, especially since many will be determined by lawsuits. But the American Hospital Association, which gets its specifications from a presidentially appointed panel, has enough particulars now to estimate that its members will have to spend some $20 billion over the coming decade. That includes the tab for everything from enlarging parking lots and bathrooms to altering clinics and testing facilities.

The results often aren't much better when Congress *does* spell out the solution desired. It sets ambitious targets and deadlines, then requires that federal agencies prescribe what equipment or processes companies use and how to use them. That command-and-control system works no better in regulation than it does for companies that tell suppliers how to build a component.

The best way to get creative solutions—and to minimize harm to the economy—is to harness the private sector's energies. The so-called tradable permits for sulfur dioxide emissions granted under the 1990 Clean Air Act are one example (see "Next Steps for the Environment"). To speed up evaluation of new drugs, the FDA—with the backing of the Council on Competitiveness—contracts testing out to private experts. Now drugmakers have agreed that the agency should also charge fees for applications so it can afford to hire more reviewers. Congressional leaders hope they can pass the proposal this year.

FOR AN INSTANCE of what's wrong with the current system, consider Prime Fiber Corp. of Appleton, Wisconsin, which reprocesses scrap used to manufacture recycled papers. Sitting on Prime's shelf is a promising new technology that would recover fibers from the waste sludge produced by pulp and paper mills, sludge that's now incinerated or dumped into landfills. Trouble is, the 1986 Resource Recovery and Conservation Act specifies that only paper that has been used in a consumer product may be reprocessed. Because the sludge is a *manufacturing* byproduct and thus falls outside the scope of the law, the EPA can't grant the waiver Prime needs without an act of Congress. Prime has been trying unsuccessfully to get one for three years.

Americans don't like tough choices about health and safety any more than they like tough choices about taxes and spending. While Washington must not cave in every time the target of a proposed regulation squawks about the costs—the targets usually imagine the worst when they first face the demands—it has to acknowledge that the U.S., like every other country, can spend only so much in trying to ensure a better world. Particularly in straitened economic circumstances, that means being hardheaded—and creative—about where and how to regulate.

INSIGHTS

- **In a slow economy, America has to make tough choices about what rules it can afford.**
- **Hard science should be used to identify the greatest threats.**
- **Benefits of legislation must be weighed rigorously against costs.**
- **The regulators need an overseer in the White House.**

THE NEW PAY GAME... AND HOW YOU MEASURE UP

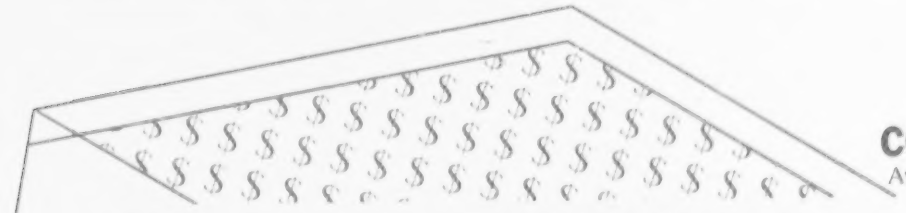
The manager's job has changed, and so have the rules used to determine who earns what.

by Kenneth Labich

IF YOU ARE a manager or a professional working for someone else, chances are that money has been on your mind a lot lately, just after job security. The recession and modest inflation have induced ever more U.S. companies to play Scrooge at raise time. Management consultancy Towers Perrin reports that white-collar raises averaged just 4.5% last year—the lowest in a decade.

If you think all this stinks on ice, just wait: It could get worse. It depends in part on whether you learn the brand-new pay game. Nobody taught you the rules because employers are just now working them out, yet your financial future could depend heavily on how well you master them.

The new approach to pay is one effect of the profound organizational changes rippling through corporate America—downsizing, flatter management pyramids, greater emphasis on teamwork, quality, and customer service. Old compensation systems



COMPENSATION BY JOB

Average annual base salaries, in thousands

FINANCE

Chief financial officer	$194.7
Corporate treasurer	$121.4
Corporate controller	$113.7
Top division financial executive	$111.1
Top corporate financial analysis executive	$93.0
Top corporate audit executive	$92.6
Division treasurer	$79.9
Division controller	$77.5
Division budget manager	$60.4
Senior financial analyst	$45.4
Senior auditor	$42.2

ACCOUNTING

Top corporate tax executive	$106.0
Top corporate accounting executive	$84.3
Cost accounting manager	$56.9
General accounting manager	$56.5
Payroll manager	$47.1
Senior tax accountant	$46.4
Accounts payable / receivable manager	$45.8
Senior accountant	$38.4

HUMAN RESOURCES

Vice president administration	$147.7
Top human resource management executive	$109.1
Executive compensation manager	$75.5
Employee benefits manager	$61.7
Equal employment opportunity manager	$57.4
Employment and recruiting manager	$53.6
Benefits planning analyst	$42.7

INFORMATION SYSTEMS

Chief corporate information officer	$130.7
Top corporate information system executive	$101.2
Division, subsidiary, or regional information systems executive	$86.1
Applications systems analysis and programming director	$82.8
Director of telecommunications	$78.3
Operating systems programming manager	$69.3
Applications systems analysis and programming manager	$66.3

MARKETING AND SALES

Top sales executive	$128.7
Top marketing executive	$122.6
Regional sales manager	$64.5
Product planning manager	$63.5
Product manager	$58.5
Market research manager	$58.5
Advertising manager	$55.5

ENGINEERING

Top engineering executive	$118.3
Product development engineering manager	$68.0
Environmental manager	$63.0
Chief industrial engineer	$61.0

PRODUCTION / OPERATIONS

Top materials management executive	$103.7
Top distribution executive	$93.0
Top purchasing executive	$83.2
Top production control and inventory management executive	$70.0
Inventory planning and control manager	$67.0
Plant manager	$64.6

SOURCES: TOWERS PERRIN; ALLAN W. MACRAE INC.; THE WORTH CO.

just don't fit this new world of work. Most managers have been getting paid largely according to how many people work for them, often with some variation based on how well they meet quantifiable goals. But what's the point, now that many corporations' aims include eliminating layers of management and pushing responsibility out of executives' offices and down to other workers? As Christopher Cardwell, a Towers Perrin compensation specialist, puts it, "It no longer makes sense to pay people according to the size of their empire." Instead, in leading-edge companies more managers are competing for raises based on less tangible criteria—leadership skills, flexibility, the ability to work well with others.

This tumult has an upside for some. Says Marsha Cameron, a principal at Wyatt Co., a human resources consulting firm: "The theory is that employers will need fewer, better managers, and they will be willing to pay more to get them." But you will have to be an especially nimble player, traversing a whole new game board, to make that theory pay off. A key first step is to find where you stand right now comparatively, and the charts on these pages should help. The main chart shows average annual base salaries for most corporate managers and professionals, while the smaller ones show how salaries tend to vary by industry and region.

EVEN IF YOU ARE ahead of the game, you won't stay there long unless you adapt to unfolding changes in how most companies pay managers. The old system was most prominently championed by the Hay Group consulting firm. The widely used Hay Plan, first employed in the 1950s and still in use at about 40% of the FORTUNE 500, rates each job according to know-how required, problem-solving capabilities needed, and accountability, or "answerability for action and the consequences thereof," as the manual puts it. The last category includes an analysis of a job's magnitude: How many workers do you control, and how big is your direct effect on the company's bottom line? The system also provides for instances where managers might be subjected to unsafe or particularly unpleasant working conditions. The result was a number of Hay points that determined a job's pay.

REPORTER ASSOCIATE *Kate Ballen*

COMPENSATION BY INDUSTRY

Average annual base salaries, in thousands

	Manufacturing	Utilities	Wholesale / Retail
FINANCE			
Chief financial officer	$224.0	$200.2	$205.2
Senior financial analyst	$50.7	$47.6	$46.3
ACCOUNTING			
Top corporate tax executive	$109.2	$98.7	$97.5
General accounting manager	$57.9	$63.1	$54.2
HUMAN RESOURCES			
Top human resource management executive	$126.6	$112.8	$107.3
Employee benefits manager	$70.6	$66.8	$56.8
INFORMATION SYSTEMS			
Chief corp. info. officer	$130.4	$118.8	$140.2
Applications systems analysis and programming manager	$68.5	$66.1	$65.3
MARKETING AND SALES			
Top marketing executive	$133.1	$115.9	$146.5
Top sales executive	$134.1	$126.7	$153.8
ENGINEERING			
Top engineering executive	$115.4	$136.5	$104.0
PRODUCTION / OPERATIONS			
Top materials management executive	$107.0	$83.2	$124.2
Plant manager	$78.9	N.A.	$71.6

Until all the management changes of recent years, the Hay Plan was a reasonably effective tool, especially for manufacturing companies where the number of employees under a manager's control often accurately reflected her or his worth to the employer. But the move toward flatter, faster, leaner organizations has changed all that. Even the Hay Group's own top managers recognize their system needs reworking to reflect new corporate realities. Says Ira Kay, Hay's managing director for executive compensation: "There were clearer, more identifiable goals ten or 15 years ago. What's important for the organization is changing, and the system of evaluating jobs is necessarily in evolution."

One of the most important changes is that rigid salary hierarchies that proceed by small steps are disappearing. A company that once might have had 20 or more rungs on a compensation ladder now could place managers in three or four much wider striations. Under such a system, called broad banding, a manager might stay in one pay category ranging from, say, $50,000 to $100,000, throughout an entire career.

The advantages are obvious to an employer who has eliminated layers of organization and increasingly values managers with varied experience. The old system of narrow bands often required companies to promote people to a new layer (which may now be gone) in order to give them a raise. Not only is that no longer necessary, but both employers and employees also inevitably win without a rigid hierarchy controlling when and how managers change jobs. Says Michael Halloran, Wyatt's national director of executive compensation: "Broad banding gives a company tremendous flexibility. And more top managers are deciding they can't let compensation run their organization."

Though the rules may be a bit hazy right now, you may well find a rich lode of opportunities if your company moves to a broad-band pay structure. Under the old small-step hierarchical system, managers are often ineligible for major promotions until

they have passed through each step along the way. You can't replace a Category 6 manager with a Category 3 interloper. With broad banding, promising younger managers and rising stars can leapfrog into more challenging—and better-paying—jobs faster. Since the system also permits easier lateral moves, you should be able to broaden your work experience more readily.

That could prove crucial to your personal bottom line over the long haul, because increasingly managers will get paid for what they know rather than for seniority, title, or what they are doing at any particular time. It's a variant on so-called skill-based pay systems, which companies have used to encourage training among hourly workers for a decade or more: The employee receives extra pay each time he masters a specific skill, even if he won't use that skill right away.

Like broad banding, such systems let employers move people from job to job far more easily, with smashing results, employers report. A recent Towers Perrin study found that 70% of companies using the new system achieved improvements in productivity, 71% have cut operating costs, 88% generated higher quality, and 75% experienced lower employee turnover. While efforts to expand skill-based pay systems to cover more managers have run into occasional snags, particularly since so many elements of a manager's job defy quantification, the trend to include higher-level employees is running strong. Managerial skills worthy of extra pay could include behaviors clearly demonstrating effective leadership: How well do you develop people? How good are you as a role model? How persuasive are you in moving your team toward company goals?

In the future, among the most desirable—and therefore lucrative—traits for managers may simply be an ability to handle the massive change taking place. Says Wyatt's Halloran: "You've got to be more flexible, more able to work with other people in a cooperative way. You've got to remember you are no longer fighting it out with 18 other people to reach the next rung on the ladder. If you recognize how to deal well with this new world, you will get paid accordingly."

A RELATED and fast-moving trend in compensation involves new forms of financial incentives. While incentive pay is hardly a new notion, creative thinkers in some corporations have come up with intriguing new designs for it. Du Pont, for example, has tested a plan in which workers would risk a percentage of their regular salary in the hope of getting a bonus by meeting financial goals for their division. Employees were able to put up a total of 6% of their pay over three years and get back up to 12% if business turned up—or lose the whole thing if business turned down. The company was forced to scrap the plan when the Securities and Exchange Commission intervened, demanding the disclosure of sensitive information, but company officials consider the pilot project a promising experiment in motivating workers. Many companies are including lower-level employees in such incentive programs as stock grants and stock option grants—once reserved for top executives. Companies such as PepsiCo, Waste Management, and Merck hand out stock options to all full-time employees, no matter what their rank.

Such programs can be a relatively cheap way to bond employees to the company and get them thinking about the big picture. Option plans can also help tear down hurt

COMPENSATION BY REGION

Average annual base salaries, in thousands

■ FINANCE	Atlanta	Boston	Chicago	Dallas	Los Angeles	New York
Chief financial officer	$235.1	$176.6	$193.7	$195.5	$255.4	$244.3
Senior financial analyst	$40.7	$46.5	$45.2	$41.4	$48.2	$49.6
■ ACCOUNTING						
Top corporate tax executive	N.A.	$100.5	$120.0	$102.5	$120.4	$144.7
General accounting manager	$48.0	$54.1	$60.1	$53.6	$61.0	$64.7
■ HUMAN RESOURCES						
Top human resource management executive	$93.6	$112.5	$114.0	$96.5	$102.7	$134.3
Employee benefits manager	$49.5	$56.9	$64.7	$59.8	$59.3	$75.0
■ INFORMATION SYSTEMS						
Chief corp. info. officer	$135.6	$136.2	$122.8	$124.2	$135.4	$172.8
Applications systems analysis and programming manager	$66.0	$67.6	$66.5	$75.9	$73.0	$78.6

■ MARKETING AND SALES	Boston	Chicago	Dallas	Los Angeles	New York
Top marketing executive	$125.4	$138.5	$123.8	$132.1	$134.3
Top sales executive	$124.6	$131.6	$125.1	$132.4	$153.3

■ ENGINEERING	Chicago	Denver	Houston
Top engineering executive	$129.8	$155.9	$119.6

■ PRODUCTION / OPERATIONS	Chicago	Cleveland	Washington
Top materials management executive	$101.6	$87.5	$108.2
	Chicago	**Houston**	**Minneapolis**
Plant manager	$59.2	$75.3	$61.8

ful barriers between top executives and the troops: a middle manager who receives options for a few hundred shares may be happy simply to be included in the plan—and focus less on the chief executive's annual grant of several hundred thousand shares. Says David Swinford, a principal at the human resources consulting firm William M. Mercer: "People often tend to concentrate on differences in kind more than differences in quantity."

A warning for employers, though: Such incentive programs can make employees mad if they are handed stock options as a substitute for decent salary increases. The company's stock price—and therefore part of their financial future—is most likely beyond their influence. As Wyatt's Michael Halloran puts it, "Option grants [to employees below the top rank] are either a gift or some sort of prayer. They don't represent a true incentive, in that you can't tie them to an individual's performance." Moreover, the Financial Accounting Standards Board is contemplating a change that would require companies to account for option grants as an operating expense, just like wages. If that happens, you can expect such programs to dry up overnight at many companies.

Employers will be needing fewer, better managers, and they should be willing to pay more to get them.

WHILE all these compensation trends cross a broad range of companies, your financial health will still also depend on which company and which industry you're in. The experts' utterly unsurprising yet sometimes overlooked conclusion: The more profitable the operation you work for, the more likely you are to be compensated amply. An accountant working for a highly profitable pharmaceutical company will likely make more than one toiling away at an old-line steel company.

Salaries tend to slide as job applicants flock to a particularly flush industry, though highly technical and hard-to-fill jobs—chemical engineer, software designer—tend to pay well in just about any industry. The lesson here is to look very carefully at the company and the industry you are joining if you want to ensure the highest compensation. Says Mercer's David Swinford: "I'd rather be above average at a winning company than a superstar at a loser. Basically, you've got to assess the hell out of your company."

You should assess the hell out of yourself as well. Employers are more than ever looking for A-list players, high-octane talents who have shown they can innovate, solve problems, motivate people, and pump up revenues fast. No, it was not ever thus. Says Andrew Sherwood, chairman of the New York human resources consulting firm Goodrich & Sherwood: "Employers used to pay today's dollars for potential, for tomorrow's dreams. Now they pay today's dollars for yesterday's performance."

To play the compensation game well, consider your career as a series of stages. Younger managers just out of school or early in their first or second job should be less adamant about salary than about having a chance to acquire and then broaden their skills. The more you know, the more you will earn over the long run, and the tyro who opts for a higher-paying job with little scope will eventually fall way behind. James Challenger, president of the Chicago outplacement firm Challenger Gray & Christmas, says younger executives should disregard salary entirely until past age 30. Says he: "Don't even mention compensation when you're taking an interview. You've got to look at these early years as the building blocks of a career."

Thomas O'Reilly, a vice president with the executive search firm Lee Hecht Harrison, advises younger managers to find a field they can be comfortable with for a long time. "This is not the time to think about money, but rather what you really want out of your career," he says. "You should look for something you have a passion for."

To stay ahead of the game, you'd better develop diverse skills and an ability to communicate and motivate.

Once past 30 and into the second stage of your career, you must take compensation a good deal more seriously—especially if you are a top performer. That means that you have to insist on increases in keeping with the results you produce, no matter how poorly your company may be performing. A lot of highly skilled managers are making do on modest raises these days because their outfit is still struggling to escape the recession. Such a decision might have been an admirable demonstration of corporate loyalty in days past, but now you have to put yourself and your career first. Says Wyatt's Michael Halloran: "If you're good, you simply should not accept the bad-news blues from your employer."

EVEN IF YOU are getting reasonably enticing raises, you may want to switch companies at least once during this stage of your career in order to supercharge your compensation. Some consultants counsel obvious winners in their 30s to make a move every four or five years to leap up the salary charts. The key is to recognize whether you have the skills the market is looking for at any particular time.

After you've hit your mid-40s, you probably should be less inclined to jump jobs for extra money. But that doesn't mean you should go on the defensive and merely try to maintain your position—or that you have to stick with a dead-end situation. You've got to convince top management that your experience and leadership skills should still command an equitable salary, and you may have to switch companies or situations if your compensation has peaked prematurely. Older managers at a big corporation may, for example, think about moving to a startup operation or a smaller company where they can join top management and maybe get equity.

The bottom line of the new pay game is that in many ways it is less of a game than the old system of turf size and ladder climbing. Of course, it's not perfect. Any system that tries to measure something as amorphous as leadership qualities, for example, is subject to mistakes and abuse. But what makes the new approach new is its increased focus on what matters in business today: diverse skills, ability to communicate and motivate, flexibility, and achieving results rather than routinely performing tasks whose contribution may have been unclear. Focusing on those things—*and* understanding the system—are your best bets for better pay.

LETTERS

RESPONDING TO DEMAND FLEXIBLY

"Brace for Japan's Hot New Strategy" (September 21) was on the mark. Try as they might, businesses will never achieve perfect knowledge of the market's demands. Success will depend more and more on making operations flexible, so that changes in customer demand can be accommodated quickly and correctly.

One area in particular that can benefit from increased flexibility is distribution—a company's last chance to "make things right" is the process that gets a product into the hands of customers. Incremental improvements in efficiency often have a major effect on the bottom line. Furthermore, such improvements can provide a major competitive advantage because very few companies manage the distribution process well, in part because it presents complex problems that information systems are ill-equipped to solve.

GARY J. CROSS
Vice President for Logistics Systems
Cleveland Consulting Associates
Cleveland

THE JOB DROUGHT (Cont'd)

"The Job Drought" (August 24) makes a useful distinction between the decline in total U.S. jobs and the more significant drop in quality jobs. The increased training and improved education you and many others suggest may boost the supply of high-quality job candidates but will do nothing to expand the supply of new jobs.

America is a nation that can invent virtually anything but seems unable to commercialize any of it. Meanwhile, many of the industries that have sprung up in Japan in the past two decades resulted from converting American science and technology to serve consumer needs.

Until America learns how to convert its own technology into successful new industries earlier and faster, the future supply of quality jobs will remain bleak.

MURRAY HILLMAN
President, Strategy Workshop
New York City

UP IN THE HIGH NUMBERS

In "The 50 Largest Life Insurance Companies" (Global Service 500, August 24) you say Sun Life Assurance Co. of Canada, ranked No. 29, has US$248.3 million worth of life insurance in force for 1991. The correct figure is US$248.3 *billion*.

RICK WINSTON
Media Relations Director
Sun Life of Canada
Toronto

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The names and addresses of the Publisher, Editor-in-Chief, and Managing Editor are: Publisher, James B. Hayes, Time & Life Building, Rockefeller Center, New York, NY 10020-1393; Editor-in-Chief, Jason McManus, Time & Life Building, Rockefeller Center, New York, NY 10020-1393; Managing Editor, Marshall Loeb, Time & Life Building, Rockefeller Center, New York, NY 10020-1393.

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1) Sales through dealers and carriers, street vendors, and counter sales	35,254
2) Mail subscriptions	674,838
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Net press run	817,901
B) Paid circulation:	
1) Sales through dealers and carriers, street vendors, and counter sales	31,000
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FALL 1992

VOL. 126, NO. 9

FORTUNE

ABOVE: The path to financial success demands a willingness to take on risks—not reckless speculation, but prudent ventures into long-term investments. Illustration by Dickran Palulian.

COVER: Photograph by Elizabeth Watt.

INTRODUCTION: PLOTTING YOUR PATH TO PROSPERITY 12

INVESTMENT STRATEGY & VEHICLES

FINDING BUYS WHEN STOCKS ARE HIGH 16
With the Dow way up there and the economy crawling, investors shouldn't just play the market. They should look for solid businesses that will survive and grow. *by Terence P. Paré*

IT'S TIME TO BE BOLD WITH BONDS 25
Gone is the era when short-term Treasuries provided a cozy hiding place. Only investors who venture into longer maturities will get decent returns. *by Shelley Neumeier*

DON'T BE AFRAID OF REAL ESTATE 31
Surprise! REITs—investments you thought were dead—can produce better returns than stocks today. *by Richard D. Hylton*

TOO MUCH GOLD, TOO FEW GOLDBUGS 35
An abundance of mined metal will deter all but convinced, long-term bulls. And keep an eye on platinum. *by John Labate*

HOW TO MAKE YOUR MONEY GROW BY 10% 38
Lower your expectations and roll up your sleeves. To have a spiffy portfolio in the Nineties, you'll need to look into everything from small stocks to foreign bonds. *by Susan E. Kuhn*

INVESTMENT TIPS FROM THE PROS 50
A fabulous foursome of stock pickers—Peter Lynch, Elaine Garzarelli, Mario Gabelli, and Fayez Sarofim—give you their take on how best to invest $100,000. Their advice applies to smaller amounts too. *by Andrew Evan Serwer*

THE BEST MUTUAL FUNDS 62
It would be hard to go wrong with these 110 winners. Over the past three years they performed splendidly—even after managers, brokers, and the IRS took their due. *by Susan E. Kuhn*

SHOULD YOU KEEP IT ALL IN THE FAMILY? 68

WINNERS WIN AND LOSERS LOSE 69

TEN WAYS TO BET YOUR MAD MONEY 72
Tired of the humdrum stocks in your all-too-correct portfolio? Here are some chances to cut loose and maybe hit it big. *by William E. Sheeline*

HOW TO KNOW WHEN TO BUY STOCKS 79
Investing in a company when it is underpriced gives you the biggest bang for your buck. A little homework and common sense will tell you when the buy signals are flashing. *by Terence P. Paré*

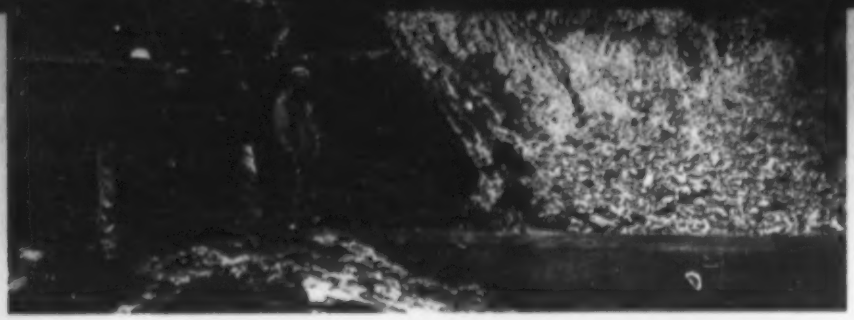
GO ABROAD FOR BIGGER RETURNS 86
Foreign stock markets offer greater growth potential than those in the U.S. To invest in them, you can choose from more than 200 mutual funds or a growing list of ADRs. *by Joshua Mendes*

A WORLD OF OPPORTUNITY 90
A FORTUNE map charts global stock markets.

WHAT NEWSLETTERS CAN DO FOR YOU 95
Only one in five beats the market, but some yield big dividends. It pays to tell them apart before you subscribe. *by Andrew Erdman*

USING YOUR PC INSTEAD OF A NEWSLETTER 96

"Cash is trash. There really is no alternative to stocks and bonds." 50



"Coke was handed the greatest opportunity for any one company in the post-Cold War period." 79

One profitable education trend: Much of the baby boomlet, the progeny of the boomers, is now school age. 142

"I think it's better for my kids. By having to pay for part of their education, they learn to value it more." 111

"Your basic tax structure is probably as low as it's going to go in the immediate future." 161

REACHING YOUR FINANCIAL GOALS

TRAINING TO LEAP THREE BIG HURDLES 105
Want to be your own boss in midlife? Worried about college or retirement? Here's how to reach the finish line. *by Anne B. Fisher*

PAYING FOR YOUR KIDS' COLLEGE 107
The costs are staggering and growing fast, but don't panic. Smart saving strategies and a sensible borrowing plan will get you through. *by Kate Ballen*

LEAVING THE RAT RACE EARLY 111
Realizing the fantasy of quitting your full-time job in middle age may not be far-fetched. It just takes planning and discipline. *by Brian Dumaine*

RETIRING SECURE AND COMFORTABLE 117
It may be a more complicated journey than you think, even with a big pension and savings. Expert tax advice and some savvy investing will get you there. *by Edmund Faltermayer*

LIFE IN ELDERVILLE 120

BIG RETURNS MY WAY 126

THE OUTLOOK

AN ECONOMY STRUGGLING TO RISE 140
Though layoffs continue, consumers are still spending. As demand picks up, companies will have to hire. *by Vivian Brownstein*

INDUSTRIES WITH PROMISE IN 1993 142
FORTUNE zeroes in on six stock groups that are set to outpace the market: education, transportation, software, health care, metals, and transaction processing. *by Andrew Evan Serwer*

STOCKS TO AVOID 148
When it comes to your investments, what you don't buy is sometimes just as important as what you do. *by Mark D. Fefer*

SOURCES OF HELP

MAKING THE MOST OF YOUR BROKER 157
He's acting a lot friendlier, but those fees are climbing fast. The quickest way to improve your performance is to get costs down. *by Tricia Welsh*

TAXES & INVESTING

TAX TIPS FOR UNCERTAIN TIMES 161
No one knows which way the wind from Washington will blow. But with intelligent moves, you can still nail down tax savings now. *by Rob Norton*

OF POLITICS, TAXES, AND ALGEBRA 162

WHAT'S GOOD ABOUT THE TWO TAX SOFTWARE TITANS 164

DEPARTMENTS

EDITOR'S DESK 4

INDEX 8

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IDEAS THAT YOU CAN PROFIT BY

HOW CAN you achieve financial gains in a troubled economy? The best approach is summed up by the way the Chinese write "crisis"—using two characters, danger and opportunity. Never has it been more essential to sidestep the dangers and capitalize on the opportunities. This Investor's Guide aims to make that challenge easier. It provides a unique spectrum of detailed strategies and practical tips for meeting your financial goal—whether it is paying for your next vacation or preparing for a comfortable retirement.

Senior editor John Curran supervised our eighth annual Investor's Guide. An award winner for his coverage of financial markets, Curran charged his team of writers and reporters with three important tasks. Says he: "In this environment, it is critical to have a disciplined investing plan, to keep the costs of investing as low as possible, and to be open to new ideas. These stories should help you on all three fronts."

You'll find not only ideas but also useful, practical instructions on how to apply them. Money can still be made in stocks, as writer Terence Paré explains on page 16 in an insightful analysis of the market's prospects. Turn to page 50 to hear four of the top investment minds in the country advise on the best ways to invest $100,000 (the ideas work for lesser sums too). On page 38, writer Susan Kuhn vividly details how to make your investment stake grow 10% or better.

Faced with sluggish markets at home and in major European capitals, investors can find some of the best prospects in other fast-growing economies and new stock markets that are just opening. You don't have to look further than the map with vital statistics on stock markets the world over, on page 90. No other guide provides this kind of global perspective. You'll see surprisingly high returns in seemingly unlikely places, such as Mexico and the Philippines.

PETE CARMICHAEL

Issue editor Curran (left, foreground) and the Guide's crew

To help lower the costs of investing, we offer an expanded ranking of mutual funds, which takes you beyond the reported performance numbers and shows how much you'll actually pocket from a fund after all sales commissions and taxes are subtracted. In case you haven't noticed, brokers' fees are on the rise, so it's also worth checking our survey of brokerage services and fees.

In these uncertain times, this idea-rich special issue can be the investor's guiding light.

Marshall Loeb

MANAGING EDITOR

FORTUNE (ISSN 0015-8259) Published biweekly, with three issues in October, by Time Inc. Principal Office: Time & Life Building, Rockefeller Center, New York, NY 10020-1393. Reginald K. Brack Jr., Chairman; Don Logan, President; Joseph A. Ripp, Treasurer; Harry M. Johnston, Secretary. Subscriptions: U.S. possessions and year $27 issues $52.95; Canada one year $27 issues $52.73. Second-class postage paid at New York, NY and at additional mailing offices. Authorized as second-class mail by the Post Office Dept., Ottawa, Canada, and for payment of postage in cash. Member Audit Bureau of Circulations. POSTMASTER: Send address changes to FORTUNE, P.O. Box 30604, Tampa, Fla. 33630-0604. Customer service inquiries: FORTUNE, P.O. Box 60001, Tampa, Fla. 33660-0001. Phone: 1-800-621-8000. © 1992 Time Inc. All rights reserved. FORTUNE is a registered mark of Time Inc.

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FINDING BUYS WHEN STOCKS ARE HIGH

With the Dow way up there and the economy crawling, investors shouldn't just play the market. They should look for solid businesses that will survive and grow. ■ *by Terence P. Paré*

QUITE A FEW investors, remembering how the Dow Jones industrial average leaped 20% in 1991, took to the stock market dance floor this year expecting to boogie. Yet despite falling interest rates and rising corporate profits, the Dow has stepped up a mere 3% since the beginning of the year. That kind of performance is not what you'd call the flatfoot floogee with the floy-floy.

Don't expect to kick up your heels in 1993 either. True, we are pegging along into recovery. But economic growth continues to be slow. FORTUNE, along with others, forecasts growth of just 1.8% for 1992 (see The Outlook). Without a strong economy to propel earnings, stock prices are high. Too darn high, says Jeffrey Diermeier, managing partner at Brinson Partners, an investment advisory firm in Chicago: "We think that the market is overpriced by 15% to 20%. At best, stocks will be dead in the water for the next two years."

Pessimism like that may prompt you to follow the droves of investors who are moving into fixed-income investments, espe-

ILLUSTRATION BY JIM MCMANUS

cially bond funds. But most stockholders have no reason to liquidate their portfolios, although some may want to cut back on their big winners. The black mood among the pros is far from universal. Measured against future earnings rather than the latest four quarters, stock prices cause less uneasiness. And both bulls and bears agree that equities can still make sense if you choose your companies carefully.

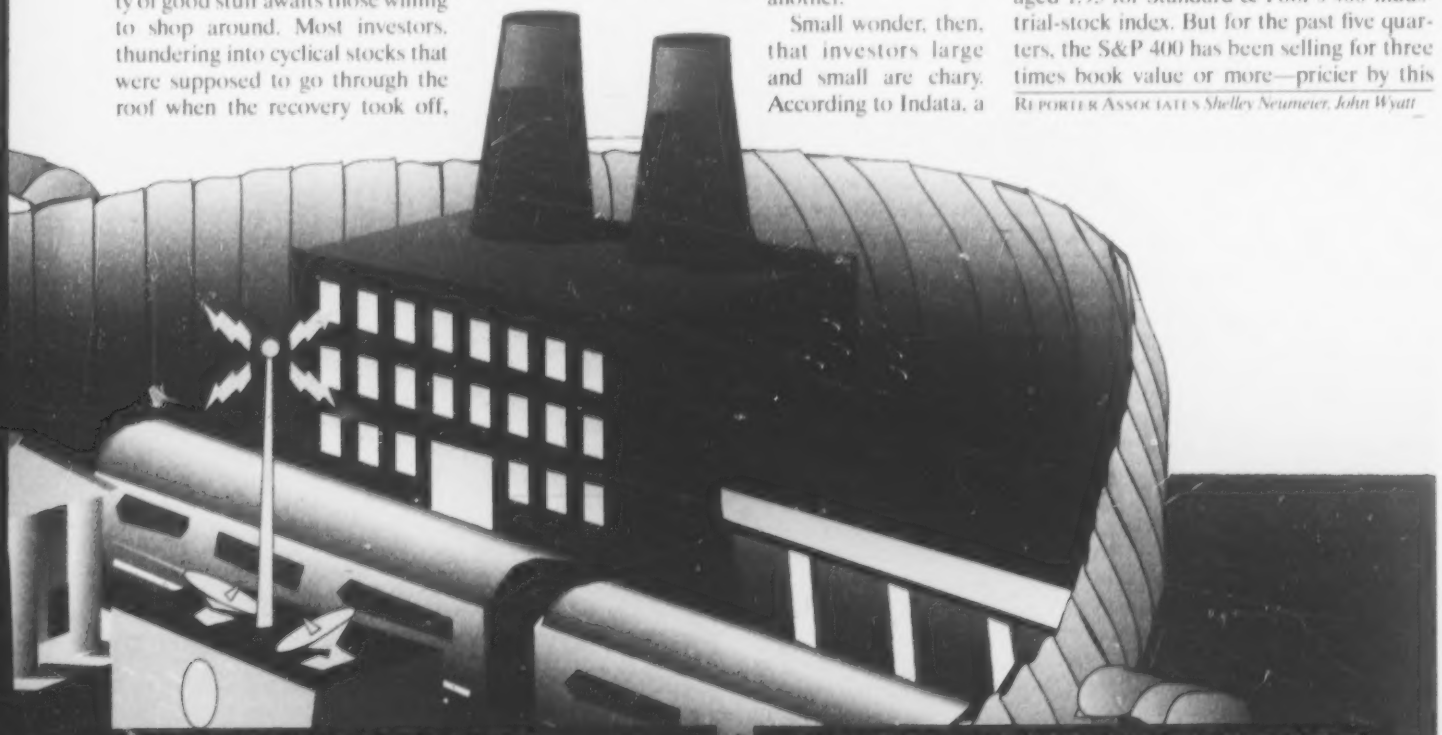
Focus on finding strong businesses, say the pros. Then worry about getting the stocks on the cheap. Even if you overpay for a good business, eventually you will get your money back as the company grows and the market recognizes the fact. But if you buy a bad business and it goes the way of all flesh, so does your investment. Fortunately, plenty of good stuff awaits those willing to shop around. Most investors, thundering into cyclical stocks that were supposed to go through the roof when the recovery took off, ignored scores of good companies selling at acceptable prices, including the 50 listed at the end of this article.

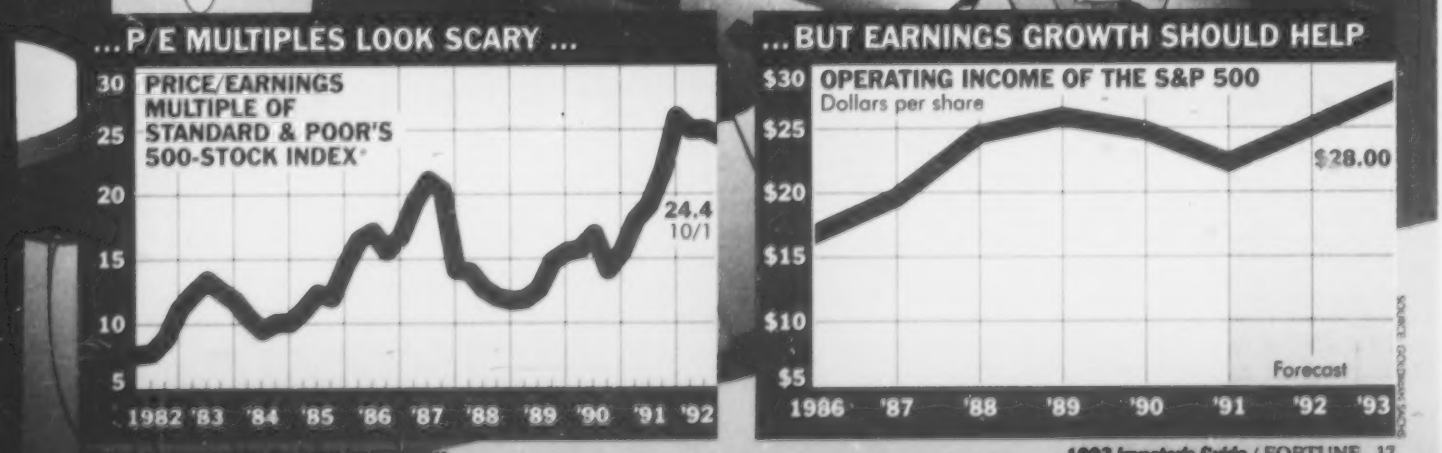
The continued sluggishness of the economy, a seemingly unshakable flu contracted in the debt-crazed 1980s, accounts for much of the Wall Street gloom. Compounding the pessimism is the fact that Wall Street has no institutional memory of a slow-growth, low-inflation recovery. The market's behavior itself has added to the confusion. During previous economic recoveries, certain groups of stocks tended to lead the rest of the market. But this time around, says Harold A. Mackinney, chairman of Fleet Investment Advisors in Providence, "there has been an awful lot of shifting from one group of stocks to another."

Small wonder, then, that investors large and small are chary. According to Indata, a Connecticut outfit that tracks the performance of some 2,500 institutional portfolios, pension fund managers raised their cash positions from 3.9% of assets last February to about 5.2% in late September. And in a recent survey of its most active customers, discount broker Quick & Reilly found that individual investors felt they should be keeping about 32% of their assets on the sidelines. That caution seems justified, says Melissa Brown, who directs quantitative research at Prudential Securities: "I just don't see a fundamental case that can be made for stocks."

Take the ratio of price to book value per share, which compares the market price of a company with its net worth. Over the past 33 years, the price-to-book ratio has averaged 1.95 for Standard & Poor's 400-industrial-stock index. But for the past five quarters, the S&P 400 has been selling for three times book value or more—pricier by this

REPORTER ASSOCIATES *Shelley Neumeier, John Wyatt*





barometer than at any time since 1926, when reliable statistics begin. When the dividend yield on stocks falls to 3% or less, goes another Wall Street saying, prices are dangerously high. At a recent yield of 3.02% on the S&P 500, stocks are knocking on heaven's door.

The worm of doubt that really eats at market watchers taurine and ursine is the price/earnings multiple, recently about 24.4 for the S&P 500. Ten times, from 1946 through September 1991, the market has ended a quarter with the P/E above 20. In eight instances, stock prices tumbled 4.3% to 17.5% over the following 12 months. One exception, the first quarter of 1961, was the beginning of a rampaging bull market that stumbled shortly after John Glenn blasted off in *Friendship 7* in 1962. The other exception, the third quarter of 1991, is a story that has yet to play itself out.

Steady-growth stock pick: snackmaker PepsiCo

The tale could yet have a happy ending. Co-chair Abby Cohen of the investment policy committee at Goldman Sachs, who considers the market 14% to 15% *undervalued*, sees silver linings. Cohen notes that the P/Es that have everyone so frightened are based on reported earnings pinched over the past four quarters by economic malaise and a wave of corporate write-downs.

But look ahead, she says, to the full year 1992. Correct for the distortion of the charge-offs and consider operating earnings per share of the S&P 500, a composite number that reflects the performance trends of companies making up the index. On this basis, Goldman Sachs estimates profits at $25 per share. The P/E drops to 17, about average for a period of moderate inflation. Cohen says that next year the S&P 500 will earn $28 per share on an operating basis, resulting in a P/E comfortably below 17 and leaving room for stocks to move higher.

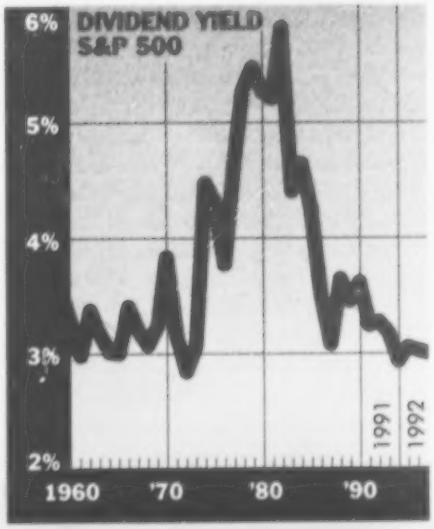
But even Cohen agrees with the pessimists that this is a stock picker's market. Only well-captained ships can successfully navigate this slow economic recovery, she says. Investors will do best to avoid the hot tips in favor of well-run companies with strong financials and admirable track records in good times and bad.

MACKINNEY of Fleet, who counts himself among the bulls, thinks that **Philip Morris** will smoke. The company, selling at 13 times expected 1993 earnings, is thought to be on a 20%-a-year earnings-growth trajectory, vs. a projected 8% for the S&P 500. "It's probably the cheapest stock on the Big Board," says Mackinney, who also expects **American International Group** to do well. The big insurance company will take some hits from Hurricane Andrew. But the company is superbly managed and, for a price that is just 13 times 1992 earnings, you are getting a company whose profits should ramp up at 15% a year.

Parker Hall, president of Lincoln Capital Management, a money management firm based in Chicago, champions tried-and-true growth stocks. So what if the economy comes back modestly, says he. Profits at his companies—**Merck**, **PepsiCo**, and **Student Loan Marketing Association**, a.k.a. Sallie Mae—are bouncing up brazenly just the same. According to the most recent consensus of analysts' estimates, compiled by the Institutional Brokers Estimate System, Merck's net income per share should rise 18% in 1992, while earnings at Sallie Mae and PepsiCo should bound ahead more than 15%. Analysts are impressed by PepsiCo's latest moves to expand overseas. Says Hall: "Hope springs eternal that earnings will surge for cyclical companies. Why bother? The old guys I have just keep plugging along at an average of 15%."

Unilever N.V., the Netherlands-based half

THREE REASONS TO BE CAUTIOUS



THE MARKET AFTER HIGH P/E s

Quarters in which P/E of S&P 500 ended above 20	P/E	Subsequent stock prices	
		6 months later	12 months later
1946: first	20.1	down 17.3%	down 16.1%
1946: second	21.9	down 17.0%	down 17.5%
1961: first	21.1	up 2.6%	up 6.9%
1961: second	21.3	up 10.7%	down 15.3%
1961: third	21.9	up 4.2%	down 15.7%
1961: fourth	22.4	down 23.5%	down 11.8%
1962: first	20.6	down 19.1%	down 4.3%
1987: second	21.1	down 18.7%	down 10.0%
1987: third	20.3	down 19.6%	down 15.5%
1991: third	21.8	up 4.1%	up 7.9%

Watch out when stocks climb far above book value, offer skimpy dividends, and linger at lofty P/Es that often precede sharp corrections.

of the Anglo-Dutch consumer goods company, is on Goldman Sachs's buy list. Goldman analyst Jack Salzman thinks that the company will boost earnings by 11% in 1992 and 14% in 1993 as a cost-cutting program starts to pay off. While Unilever functions as a single entity, you can invest in either the British company or the Dutch. Theoretically, the securities for the two outfits should trade at parity. But right now, possibly because of the strength of the guilder relative to the pound, the British variety is trading at a P/E of 15 based on Salzman's estimate of 1992 earnings, while the Dutch trades at a multiple of about 14. **Kimberly-Clark** is another Goldman pick. The diaper maker's P/E, just 16, is below the market's, but its return on equity is a spanking 20% compared with 14% for the market as a whole.

FOR A DIFFERENT slant, listen to Anthony Spare of Spare Tengler Kaplan & Bischel, a San Francisco investment adviser. Spare, whose name appropriately rhymes with bear, urges investors to stick to cheap stocks of strong companies that pay big dividends. That way, he says, even if prices go down you will still be collecting that check every quarter. But be prepared to sell, says Spare, if a steep price rise leaves the dividend yield too low.

Dow Chemical, which is yielding 4.6%, meets Spare's criteria. He believes the company's commodity chemicals and consumer products, like Saran Wrap, and its 70% ownership of **Marion Merrell Dow**, the pharmaceutical outfit, provide earnings strength through all the turns of the business cycle. Another Spare choice: **Bristol-Myers Squibb**, which yields 4.3%, sells at a P/E of 16 based on full-year 1992 earnings, and should boost earnings at a 15% clip over the next five years.

Diermeier likes some health care stocks. At 17 times the past four quarters' earnings, pillmaker **Schering-Plough** goes down easy relative to its drug stock peers, which command an average P/E of 20. And analysts' expectations for the company are rising. **Hillenbrand Industries**, based in Batesville, Indiana, makes hospital beds, high-security locks, and caskets. The P/E, 28 times trailing earnings, is high-powered, but so is the anticipated 15% growth rate in earnings. Here's a company that profits from the human frailties of crime, sickness, and death, all growth businesses. What more could a market bear ask for? F

FIFTY STOCKS TO BUY NOW

COMPANY	SYMBOL	PRINCIPAL BUSINESS	PROJECTED EARNINGS growth rate next 5 yrs.*	RECENT PRICE	P/E
Abbott Laboratories	ABT	Pharmaceuticals	15%	$28	20
American International Group	AIG	Insurance	15%	$103	14
American Cyanamid	ACY	Chemicals	14%	$56	13
American Home Products	AHP	Pharmaceuticals	12%	$68	15
Baldor Electric	BEZ	Motors	10%	$27	21
Banc One	ONE	Banking	12%	$44	14
Barnett Banks	BBI	Banking	10%	$37	17
Bell Atlantic	BEL	Local phone service	6%	$49	14
Bristol-Myers Squibb	BMY	Pharmaceuticals	15%	$64	16
Brown-Forman 'B'	BFB	Distillery	13%	$87	16
Burlington Northern	BNI	Railroad	11%	$39	13
Citizens Utilities 'B'	CZNB	Utility	8%	$27	19
Deluxe	DLX	Check printing	13%	$42	18
Dillard Department Stores 'A'	DDS	Department stores	18%	$37	19
Disney (Walt)	DIS	Entertainment	19%	$37	28
Dow Chemical	DOW	Chemicals	10%	$57	21
Emerson Electric	EMR	Electrical equipment	10%	$55	19
Federal National Mortgage Assn.	FNM	Mortgage loans	14%	$66	12
Federal Home Loan Mortgage	FRE	Mortgage loans	14%	$43	13
Fifth Third Bancorp	FITB	Banking	13%	$50	20
Fuller (H.B.)	FULL	Adhesives	15%	$45	16
Gap (The)	GPS	Retailer	19%	$32	19
General Electric	GE	Diversified manufacturing	12%	$78	15
Gillette	G	Toiletries	17%	$57	27
Glaxo Holdings (ADR)	GLX	Pharmaceuticals	21%	$27	21
GTE	GTE	Long-distance phone serv.	9%	$34	17
Hewlett-Packard	HWP	Computers, printers	14%	$57	15
Hillenbrand Industries	HB	Hospital beds	15%	$41	28
Johnson & Johnson	JNJ	Health care products	15%	$47	20
Kimberly-Clark	KMB	Paper products	12%	$54	16
McDonald's	MCD	Fast food	13%	$45	18
Merck	MRK	Pharmaceuticals	18%	$44	23
Minnesota Mining & Mfg.	MMM	Diversified manufacturing	10%	$102	19
Novell	NOVL	PC networks	28%	$28	37
Pacific Telesis Group	PAC	Local phone service	7%	$44	17
PepsiCo	PEP	Soft drinks, snacks	17%	$38	26
Pfizer	PFE	Pharmaceuticals	19%	$75	33
Philip Morris	MO	Cigarettes, food	20%	$86	18
Policy Management Systems	PMS	Software	20%	$74	31
Procter & Gamble	PG	Detergents, toiletries	12%	$49	19
Student Loan Marketing Assn.	SLM	Student loans	16%	$71	18
Schering-Plough	SGP	Pharmaceuticals	16%	$56	17
Southwestern Bell	SBC	Local phone service	7%	$67	16
Toys "R" Us	TOY	Retailer	20%	$39	32
U.S. Healthcare	USHC	HMOs	20%	$45	28
US West	USW	Local phone service	6%	$38	13
Unilever N.V.	UN	Consumer goods	12%	$116	16
United HealthCare	UNH	HMOs	34%	$50	35
Warner-Lambert	WLA	Pharmaceuticals	12%	$63	14
Waste Management	WMX	Waste disposal	20%	$36	20

*Estimates from Institutional Brokers Estimate System, except for Citizens Utilities, Glaxo, Unilever, and United HealthCare (Value Line Investment Survey).

DON'T BE AFRAID OF REAL ESTATE

Surprise! The investment you thought was dead often produces better returns than stocks.

■ *by Richard D. Hylton*

REAL ESTATE is about as popular as the plague these days, but that doesn't mean you can't profit by investing in it. Some highly promising buys beckon the individual investor looking for high yields and willing to invest a portion of his portfolio in a real estate investment trust, or REIT. Don't expect to double your money in a year. Those days, alas, are gone for now. But you can do reasonably well, earning a hefty yield with the prospect of capital gains down the road. During the first eight months of 1992, REITs delivered a total return of 5.78% and recently were offering a high dividend yield of 8.5%, which looks mighty attractive to investors stewing over the S&P 500's −0.7% return through August.

REITs are publicly traded companies that invest in portfolios of real estate for their shareholders and pay out 95% of their income as dividends (reinvesting the rest); to buy shares, just call your broker. The most popular type is the equity REIT, which owns all or part of its properties and operates them. It is also the best-performing type this year, returning 8.14% through August according to the National Association of REITs, a trade group in Washington, D.C. Mortgage REITs buy housing loans and pass the interest income on to shareholders as dividends. REITs known as hybrids invest in both debt and equity.

Sure, the single-digit REIT returns so far this year are a far cry from the average 35% that equity REITs earned in 1991, but prospects are bright for a couple of reasons. Traditional sources of capital for real estate companies—banks, insurance companies, pension funds, savings and loans—have in many cases hit hard times. That means REITs have a wider choice of the best developers and projects to finance or buy into. In addition, well-managed REITs can buy real estate today at distressed prices, setting the stage for handsome capital gains when markets improve. Among the REITs likely to benefit first from an economic upturn are those that own apartments and shopping malls.

Which is the right REIT for you? Several investment pros favor **Kimco Realty**, a top-notch owner and operator of neighborhood and community shopping centers that was recently yielding about 6.5%. After completing a $128 million initial public offering last November, the company easily sold an additional two million shares this past summer. Although the shares are up over 30% since the November IPO, analysts at Green Street Advisors, a REIT research firm for institutional investors in Newport Beach, California, say the company is still a buy at the recent price of $27.25. "For the little guy I would steer toward the higher end of the quality spectrum," says Mike Kirby, a principal at Green Street Advisors. Kimco, he says, is among the best.

Kirby also likes **Federal Realty**, which upgrades and operates community shopping malls, and **Weingarten Realty**, an operator of shopping malls mainly in and around Houston. Weingarten boasts a strong balance sheet, healthy cash flow, and dividend growth. It also excels at improving the value of newly acquired shopping centers. Kirby and others expect cash flow to continue growing 6% to 8% annually; the shares were recently yielding about 6.2%.

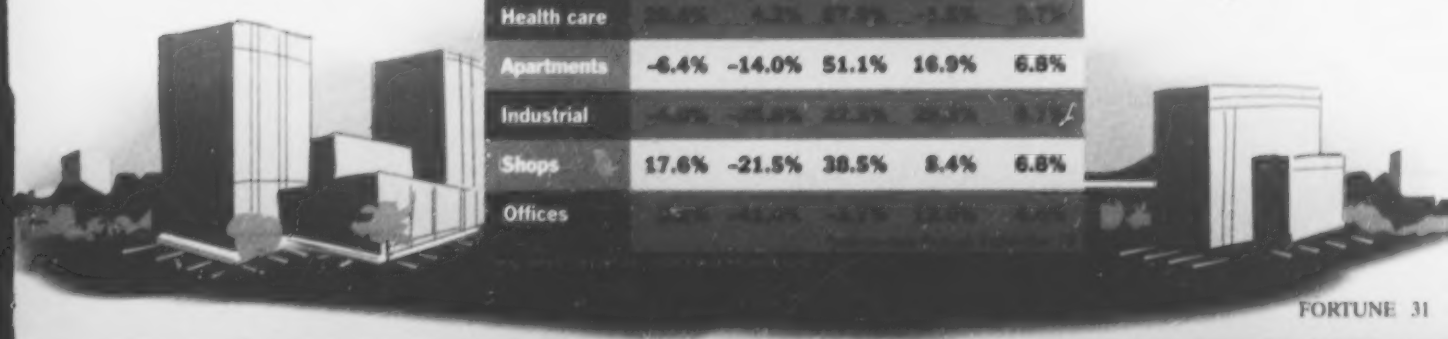
No group of equity REITs has been as hot as the health care sector, which consists of trusts that invest in nursing homes and other health-related properties. **Meditrust**, a hybrid REIT that invests primarily in nursing homes and rehabilitation hospitals, is one of Kirby's top picks for individual investors. It is the largest of the health care REITs, with a diversified portfolio and seasoned management that should increase cash flow at least 5% a year in 1992 and 1993. **Nationwide Health** is also on the buy list. It has been growing quickly, with about $100 million of acquisitions in the past two years, and was recently yielding 7.8%.

Robert Frank, a REIT analyst at Alex. Brown & Sons in Baltimore, recommends **United Dominion Realty Trust**, which owns and operates apartment buildings. Apartment REITs are faring well and should continue to improve cash flow and profits largely because rental apartments will soon be in short supply in many parts of the country. At a recent price of $22.125 United Dominion was yielding 6%. F

WHERE THE YIELDS ARE

In these low-interest-rate times, the substantial dividends that many REITs are paying look newly attractive to investors.

REITS	TOTAL RETURN TO INVESTORS 1989	1990	1991	1992	RECENT DIVIDEND YIELD
Health care					
Apartments	-6.4%	-14.0%	51.1%	16.9%	6.8%
Industrial					
Shops	17.6%	-21.5%	38.5%	8.4%	6.8%
Offices					



HOW TO MAKE YOUR MONEY GROW BY 10%

Lower your expectations and roll up your sleeves. To have a spiffy portfolio in the Nineties, you'll need to look into everything from small stocks to foreign bonds. ■ *by Susan E. Kuhn*

YOU HATED the quiche, and the Hermès tie was too expensive anyway. But the 18% average annual return from stocks, the 13% from bonds, the CDs with double-digit yields . . . ah, the Eighties, they weren't so bad after all.

Sorry, investors, they aren't coming back. From now to the year 2000, money managers say, the magic number to shoot for is an earthly 10%. Ten, as in the ten fingers on your two hands. Hold them out, and tell yourself one other thing as you tick off the digits: 10% per year won't come easily. Buying Treasuries alone won't do it for you. Blue-chip stocks offer no guarantees, and cash—well, you've been to the bank, so you know what *that's* worth.

No, to get 10% now you'll have to pick your investments carefully. The perfect portfolio will have to be global in scope, diversified in risk, and eclectic in content. That means looking to the world of small stocks, junk bonds, convertibles, real estate investment trusts, and municipal bonds. It means venturing overseas for crackerjack capital gains in countries where growth is exploding. Do all that, and you may emerge from the Nineties Hermès-less but looking pretty spiffy all the same.

All this sweat for 10%, you ask? Aye, mate—if you're lucky. Historically speaking, the Eighties were such an aberration that the Nineties may have to pay for it. Since 1927, stocks have returned an average of 10% a year and long bonds half that, according to Ibbotson Associates in Chicago. Says Ronald Clarke, who runs $3 billion in domestic equities for Aetna Life & Casualty's investment portfolios: "I'm nervous. We've just finished a decade when stocks returned almost twice their historical average. How do we get back to the trend line? I think the 1990s will be below average for several years; 1991 was a great start, but we'll take some of that back."

Ah yes, 1991. If today's flat stock market and miserly yields sting, think of 1991 as the setup. Last year Standard & Poor's 500-stock index kicked out a 30% return, and 30-year Treasuries punched home 19%. Every spinning top has a final spurt. This one came as interest rates were plunging. The recent 6.3% yield on ten-year Treasuries is the lowest in 20 years, the 2.9% yield on money funds the lowest ever.

Why do low interest rates matter? As any retiree can tell you, they hurt the income stream, half of the total return equation. But even more important, as interest rates approach zero, the potential for impressive capital gains, the other variable, shrinks. In the bond market, where prices go up as interest rates fall, the relationship is easy to see. Notes Robert Beckwitt, portfolio manager of the Fidelity Asset Manager Fund: "It is mathematically impossible for ten-year Treasuries to achieve 10% average annual returns in the next ten years. The coupon would have to fall almost to zero to generate enough capital gains on top of the 6.3% yield. People don't realize it, but there isn't much juice left."

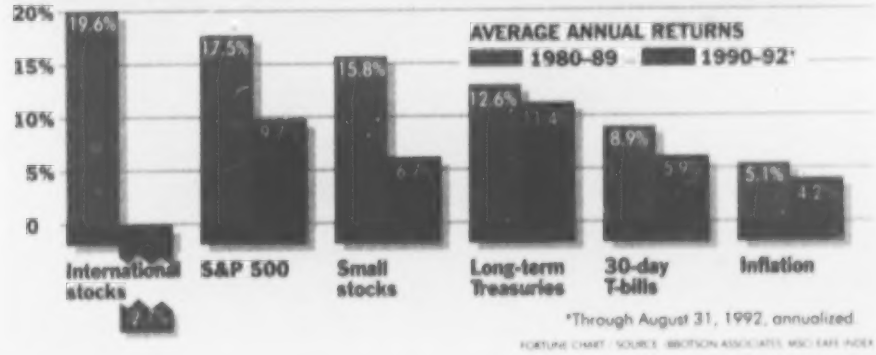
IN THE STOCK MARKET, the relationship between interest rates and prices isn't always so direct. But there's invariably a tradeoff: When interest rates fall, people are willing to pay more for the growth potential of stocks. That means the average price/earnings multiple of the market can expand regardless of earnings expectations. Last year, in fact, the P/E ratio of the S&P 500 rose even more than the drop in earnings would account for—from 15 to 26.

Now the stock market will have to depend heavily on accelerating earnings to eke out gains, since there just isn't room for rates to drop significantly. In a slow-growth decade, that could be hard. Stocks recently sold at 24 times earnings on average, and 30-year Treasuries were yielding 7.4%. According to one commonly used formula, earnings would have to grow more than 15% annually over the next three to five years to push the stock market higher. Wall Street strategists look for 8% average annual gains in corporate earnings between now and 1997, according to the Institutional Brokers Estimate System, which tracks analysts' forecasts. Hmmm. Has anyone considered the possibility of capital *losses*?

Low yields, limited capital gains potential: That's the recipe for tough total returns. How to sweeten the batter? Higher-

REPORTER ASSOCIATES *Justin Martin, John Wyatt*

MAKING 10% NOW WILL BE TOUGH



FORTUNE CHART / SOURCE: IBBOTSON ASSOCIATES, MSCI EAFE INDEX

ILLUSTRATION BY DICKRAN PALULIAN

yielding investments with above-average growth potential are out there, in many fields. But before you analyze your portfolio stock by bond by stock, step back. Ask yourself: How much of my assets should be in stocks and bonds, period? The answers depend in part upon your age, your needs, and your risk tolerance.

Choosing the percentages of your portfolio to invest in stocks, bonds, and cash—the process called asset allocation—is more critical to investing success than most folks realize. According to Callan Associates, a San Francisco–based investment consulting firm, asset allocation determines 80% of a portfolio's return.

The basic drill is familiar. Because stocks offer long-term growth while bonds give you income, the younger you are the more you should invest in stocks—up to 80% or so of your assets. In retirement, a 60% bond holding may be more prudent. But don't get too conservative too early. Most investors should own more stocks than they do, just to keep ahead of inflation. Says Harry Miller, 58, portfolio manager of the USAA Income Stock Fund: "I'm a firm believer that stocks belong in everyone's portfolio. Bonds that paid 13% a decade ago are coming due and can be reinvested at only 6% to 7%. Retired people have had their investment income cut in half, but their expenses have doubled."

The smartest asset-allocation decision you can make may well be to transfer out of cash. Regardless of your age, most experts say you should keep no more cash on hand than the equivalent of six months' expenses, exclusive of any big upcoming bills, like tuition. Most Americans have far too much in the bank. According to Federal Reserve data, cash recently accounted for $3.4 trillion of individual assets, vs. $2.6 trillion in stocks and $2.4 trillion in bonds.

One immediate cure is to own more stocks. The 1990s, after all, may not be nearly as bad as the 1970s, when stocks returned a miserly 6% per year on average. But even so, 10% returns won't be a shoo-in. Today the dividend yield on the S&P 500 is a paltry 3%, leaving 7% for capital gains to make up. Two obvious choices: Buy a stock with an above-average yield and a history of increasing both dividends and earnings, or buy the stock of a company with superior growth potential.

Miller of USAA knows the first strategy well. His prospectus commits him to provide a yield that exceeds the market by two percentage points. He invests 20% of his assets in utility stocks with high yields but also potential for growth. **Houston Industries**, recently yielding 6.8%, and **Texas Utilities**, at 7.3%, fit the bill. The shares of both companies currently sell at a discount to their peer group, which is yielding 6.2% on average. However, both companies are just beginning to get revenues from recently completed plants, which has increased their cash flow. As the spigot opens, dividends and stock prices should increase.

Houston Industries should flow first; it just raised its dividend for the first time since 1988. In addition, 5% of its revenues come from cable television, a venture expected to add to cash flow in 1994 and to profits in 1995. USAA utility analyst Lon West expects Houston to increase its dividend 10 cents, to $3.10, and yield 6.2%, about average for the industry, within the next two years. That would boost the stock price to $50 from the recent $44, assuming no change in the market multiple. Average annual return: 13%.

AT THE OTHER END of the spectrum are aggressively expanding young niche companies. They have small market capitalizations and volatile stock prices. Since 1927 their average annual return has been 12%, vs. 10% for the big stocks in the S&P 500. In the slow-growth, low-inflation economy that many foresee for the 1990s, small companies with clear niches can jam.

Beth Cotner, an equity fund manager at Kemper Financial Services, thinks health care companies that focus on cost containment and companies in the gambling business are two groups where earnings can expand rapidly. For example, she cites **Foundation Health**, a California HMO that

BITTE, SPRECHEN SIE DEUTSCH?

Germany's bonds are as boffo as its beer.

Would you put $4 billion into foreign bonds right now, what with all the turmoil over interest rates and currencies in Europe? Only if you want to make money, says Gary Brinson of Brinson Partners in Chicago, who manages a total of $23 billion for big pension funds and endowments. Since last spring, he has doubled the foreign-bond weighting in all his global portfolios, including one that has returned 18% on average annually over the past ten years.

Says Brinson: "We're very bullish on foreign bonds. There is almost an unprecedented gap between rates in Europe and the U.S. Into 1993, in our view, that will shift, and European rates will come down powerfully." How much? Americans who invest with him should expect 10% to 12% returns. What countries catch his eye? Germany, France, and the Netherlands. Their ten-year bonds are moderately priced, at a 7.5% yield for Germany and 8.5% or so for France and the Netherlands. Comparable ten-year U.S. Treasuries pay only 6.3%. Spain, with ten-year bonds that yield over 12%, is also gaining favor. It has one of the highest growth rates in Europe. All European currencies continue to be volatile, which is why Brinson will stay hedged. He thinks long bond rates in Germany could fall as low as 6% soon, which would push bond prices up more than 10%.

To bet alongside Brinson, you'll need to pony up a minimum of $100,000 for his spanking-new no-load **Brinson Global Fund**, started September 1. For the less well endowed, with $1,000 or so to invest, there are plenty of international bond funds available. Our list of the best mutual funds to buy (see "The Best Mutual Funds") is topped by **Scudder International Bond Fund**. Its manager, F. Mark Turner, is another Euro fan and a fairly consistent hedger.

ALADDIN'S CONVERTIBLE LAMP

With Treasury bonds pay 7% or so, but they don't offer much in the way of capital gains. Stocks are better growth bets, but dividends average a miserable 3%. Yuck. Is there a way to bet on a turnaround stock and get a decent yield? Rub the magic lamp, Aladdin. The genie says, Buy a convertible security.

Eric Ryback's income fund, the **Lindner Dividend Fund**, has consistently conjured up the riches of Araby by betting heavily on these hybrids. Recently 25% of his $400 million in assets was in convertibles. Over the past ten years his fund has returned an average of 18% per year. Last year investors took home 24%.

Ryback's strategy gives investors much of that return in the form of a glorious yield, currently 8%. The rest comes from patiently waiting for capital gains. He does it with convertible bonds like the 8.5% obligations of **Ceridian Corp.**, due in 2011 and recently yielding 9.3%. The bonds are callable in a year at a 3% premium, but because they have been selling at a discount, Ryback expects he'll earn his coupon for quite some time. The bond can be converted profitably into common stock when the share price hits $27; it traded recently at just $14.

Ceridian is the former computer software services arm of Control Data. Among its businesses: payroll processing—it prints one of every five paychecks in America—and Arbitron Co., which collects data on radio and TV audiences. Despite the low stock price, Ryback insists, "this is certainly an equity play. Ceridian is in the right businesses for the 1990s, and all its divisions are cash-flow positive. The bonds have already moved up, from 80 cents on the dollar to 91 cents. I expect that to continue." Even a smidgen more appreciation would get you to that magic 10%.

Ceridian prints checks and mints money.

should see earnings increase more than 20% per year through 1997. The stock, recently $35 a share, trades at 14 times 1993 earnings, a 19% discount to the market. It should reach the market multiple within a year, says Cotner, for a 23% gain. Foundation has an edge: The company has a government contract to serve 860,000 military retirees, a large customer base that gives it muscle to negotiate cheaper rates for hospital care and doctors' services.

Sometimes small stocks are undervalued simply because they are underfollowed by analysts. An example: **Gtech**, a newly public company that operates lotteries worldwide. Cotner looks for earnings to double this year, rise more than 40% in 1993, and thereafter expand at a 30% annual rate. Gtech has dozens of long-term contracts with states and countries and is using that clout to add new business rapidly. It just signed on to run the Texas state lottery, which should become the largest in the country at $3 billion a year. Gtech gets a 4% cut. It is also expanding overseas, most recently to Czechoslovakia. At $26, the stock recently sold for 18 times 1993 earnings, but given its growth rate, Cotner says, it should command a multiple of at least 25. Her target price for the stock in the next 12 months: $35, for a 35% return.

In the center of your stock basket, between the go-go small stocks and the steady income producers, will undoubtedly sit a handful of well-known winners with staying power. They'll share several characteristics in tune with the 1990s—primarily a lean balance sheet, solid management, and exposure to expanding markets overseas. John Snyder, portfolio manager of the John Hancock Sovereign Investors Fund, thinks **PepsiCo**, **Sara Lee**, **Johnson & Johnson**, and **American International Group** are prime examples of fat-free enterprises with a commanding global presence. Snyder thinks all four can increase both dividends and earnings at least 12% to 15% a year throughout the 1990s.

But heck, if Sara Lee is going to beef up revenues by selling bagels in Brisbane, why shouldn't you dabble abroad as well? Instead of staring at a pricey stock market and a sluggish economy, why not take a trip where stock markets are cheap and economies vigorous? Says Fidelity's Beckwitt: "The most tremendous opportunities investors can find are overseas. Mexico, for example, has completely turned around, and the stock market sells at a reasonable P/E ratio of 11. They've got Harvard and Yale Ph.D.s running the country like a company. **Teléfonos de México** and **Grupo Financiero Bancomer** look like Philip Morris and Fannie Mae five years ago. You can easily earn 15% returns per year."

INVESTING internationally now is the perfect way to try buying low and selling high. Morgan Stanley Capital International's Europe, Australia, and Far East index (EAFE) has performed miserably since 1988, losing an average of 5% per year, vs. a 23% average annual return for the S&P 500. Oh, sure, you say. But what if we've hit bottom? From 1983 through 1988, when EAFE stocks consistently *beat* their U.S. brethren, international investors lapped up a 33% average annual return, twice that of the S&P 500.

These EAFE index returns are denominated in U.S. dollars. Investing internationally always adds an extra element of risk: The foreign currency can depreciate against the dollar. In Canada, and now also in Mexico, the risk is moderated because the local currency fluctuates pretty much as the U.S. dollar does. In Europe, however, the risk is more pronounced. Many money managers expect the deutsche mark to fall as much as 15% against the dollar in the next year, so they have hedged their portfolios by selling currency futures contracts.

The easiest way to invest in foreign stocks is through a mutual fund. Many mutual fund managers hedge their portfolios to reduce the currency risk. You can also buy American Depositary Receipts, or ADRs, which are shares of foreign companies that trade on an American exchange. (For more, see "Go Abroad for Bigger Returns.")

Don't limit your overseas investments to stocks. Foreign bonds are mighty tempting too. As soon as Germany wrestles inflation lower, managers expect European interest rates to tumble, generating double-digit capital gains. Even allowing for the cost of a currency hedge, 10% to 12% returns are likely (see box, "Bitte, Sprechen Sie Deutsch?"). Says Theresa Havell, director of fixed-income investments at Neuberger &

Berman: "The biggest change investors will face in the 1990s is the rising importance of looking globally. Global bonds offer moderate risk, somewhere between domestic stocks and bonds. They have very attractive real rates of return." There's an emerging markets play too: Mexican treasury bills, for example, pay 19%.

Investing in any one of the roughly 50 international bond funds offers the easiest entry to the market. An alternative: funds that maintain a constant percentage of assets in foreign bonds. Paul Suckow, Oppenheimer Management's director of fixed income, divides the $1.7 billion **Oppenheimer Strategic Income** fund evenly among U.S. government bonds, junk, and foreign bonds. Last year investors took home 16%.

In America, the only straight bonds with any hope of 10% returns are riskier junk bonds. But there's good news from this war-torn front: The junk market is pretty healthy. Low interest rates and a rash of new equity offerings have allowed many companies to clean up their balance sheets. Defaults are fewer. In both 1990 and 1991, they ranged between $17 billion and $18 billion; analysts predict that junk defaults will not exceed $10 billion this year. Supply has increased just in time for a yield-hungry market. Through August, $32 billion of new junk issues came to market, putting 1992 ahead of the $30 billion record set in 1986.

After experiencing near death in 1990, junk bonds have had a tremendous rally—up 59% in total return on average in 1991 and about 16% so far this year. Falling interest rates and a recovering economy have added a stocklike kick to the securities because the bonds are so dependent upon cash flow. "In junk, all the company needs is enough c flow to make the interest payments," plains Kingman Penniman, head of ju bond coverage at Duff & Phelps/MCM vestment Research in Montpelier, Verm By contrast, he says, "in the equity mark the P/E is high and everyone's asking, W the earnings come through?"

While the economy muddles along, c servative investors should plan to earn t 10% to 12% coupons from junk bo through a mutual fund. Individual junk sues can be tough to analyze and buy, they are often callable within five years. H ry Resis, director of high-yield trading Kemper Financial Services, is finding ple of bargains, including the 11.125% bond **Rogers Cantel Mobile Communicatio** due in 2002. The B-rated bonds rece yielded just over 10% to their 1999 call d The company, a subsidiary of Rogers C munications, is the only coast-to-coast ce lar operator in Canada, with 46% of the m ket. It has already completed most of capital expenditure programs, and it's gr ing rapidly. Resis says, "In four to five ye the senior debt of this company could come an investment-grade credit. T would add substantial price appreciation returns could be better than 15% per ye

JUNK BONDS are but one of a bate securities that share a dual nature: T have the appreciation potential of e ties but are yield-oriented like bo Convertible preferred stocks, convert bonds, and real estate investment trusts al fer the potent combination of high yields potential for capital gains, which makes t ideal scouting grounds for 10% returns.

Convertibles have proved their worth the past 12 months. The average convert fund returned 12.3%, vs. 5.6% for the a age stock fund and 11.9% for bond fu Convertibles come in two varieties—p ferred stocks and bonds, both of which c vert into common shares. Both yield slig less than straight bonds and move with common shares. The conversion beco profitable only after the common stock appreciated a set amount. On average, c verts recently paid 6.5%, more than tw the stock market's yield (see box, "Alad Convertible Lamp").

Real estate investment trusts, or RE also trade as stocks and pay bondlike yi REITs typically own or operate real esta apartments, shopping centers, warehous and pass along the rental income to in tors. REITs are required to pay out 95%

THANK YOU, UNCLE SAM

Wisconsin gets housing; you get tax credits.

10 Sometimes the best way to earn 10% is to save 10% of your income from the clutches of the IRS. Not through some tax-shelter scheme, mind you, but directly, with a bona fide tax credit.

That's the idea behind one type of real estate limited partnership that buys or builds properties, often in the suburbs, and then rents them to low- and middle-income tenants. Once the properties are occupied, investors get a steady stream of tax credits over ten years. The credits allowed each year equal about 15% of your investment. Over the life of the investment, however, that 15% annual "return" is more likely to average 12%—still very respectable. The actual life of your investment will likely be closer to 15 years, as it takes time to rent the properties at the start and sell them at the end. That 12% takes such wrinkles into account and assumes the properties will be sold at cost; any gain would sweeten your return. Even if the properties are worthless, you've already got the tax savings in your wallet, and with the write-off your annual return would still average around 10%.

Boston Capital Partners, Related Capital, and Boston Financial Group are the largest sponsors of these plans. **Boston Capital Tax Credit Fund III** and **Boston Financial Tax Credit Fund Plus** are sold through several brokerage firms, while Related's **Independence Tax Credit Plus** is primarily available through Shearson and IDS. All the plans are open to investors who meet modest income and net worth requirements. Minimum investment: $5,000. There's also a recommended maximum of $50,000. That's because investors in the 31% federal bracket and up are allowed to use only $7,750 in tax credits per year. Uncle Sam's generosity has its limits, you know.

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their operating income as a cash distribution. Because REIT managers avoided buying new properties and office real estate, they are stuck with few non-income-producing turkeys—unlike a lot of insurance companies and pension funds. REIT managers are practically the only healthy buyers of real estate around. They are paying bargain basement prices at a time when the cost of money is very low. On average, REITs recently paid out 7.8% in yield (for more on REITs, see "Don't Be Afraid of Real Estate").

STOCKS, BONDS, real estate ... Sounds good, you say, rolling up your sleeves. But taxes already can eat up much of your gains, and Bill Clinton has said he will raise them if elected. President Bush says he won't, but then press secretary Marlin Fitzwater says that's not a pledge. Many states desperate for revenues are increasing taxes too. In California, the top income tax rate is 11%, up from 9.3% a year ago. Well-off investors there, and in New York City, which has a local income tax, can fork over 40% or more of their taxable take. The answer, of course, is to own some municipal bonds. Long-term munis today pay out an average yield of 6.3%, or 85% of the yield on long-term Treasuries. For investors in the top federal tax bracket of 31%, that's a taxable equivalent yield of 9%. Throw in some state taxes, and you've easily reached the 10% goal.

Mutual funds like Dreyfus's **General Municipal Bond** fund, which has returned an average of 11% a year to investors since 1989, offer the easiest way of investing in munis. Investors with at least $50,000 to put into municipals can set up their own portfolios. Richard Ciccarone, director of tax-exempt fixed-income research at Kemper Securities, recently recommended that investors put as much as 20% of their muni portfolio into the bonds of large suburban hospitals. In the health care crisis, Ciccarone observes, the strong are getting stronger at the expense of the weak. Hospitals with a dominant market share should maintain operating margins, so Ciccarone says their bonds will outyield other municipal alternatives.

Currently, A-rated 30-year hospitals pay an average of 6.6%. The higher-rated AA bonds of **Kaiser Permanente** due in 2021 pay 6.3%; they are a Ciccarone favorite. The hospital chain, the dominant care provider in Oakland, operates as an HMO and has relatively little debt. A healthy hospital for a healthy portfolio? In the 1990s that's a 10% prescription too good to pass up.

THE BEST MUTUAL FUNDS

It would be hard to go wrong with these 110 winners. Over the past three years they performe splendidly—even after managers, brokers, and the IRS took their due. ■ *by Susan E. Kuh*

ARE YOU READY to move out in front of the pack? You can. Simply by buying any of the funds on our winners list, you'll be putting your money with managers who have a proven ability to excel. With the help of Morningstar, a mutual fund rating service in Chicago, we've plucked out the top-performing funds in each of 14 categories. Within stock, hybrid, and bond fund groupings, we've turned up the best of everything, from aggressive growth funds to global bond funds.

Our rankings are very different from the others that you'll see. We've looked at average annual returns *after* all expenses, sales loads, and taxes have been taken out. We want to show what you actually-pocket by investing in these funds. Our tax calculation, for example, takes into account the federal taxes you would have to pay on all income and capital gains distributions, assuming a 28% rate. A fund manager who trades frequently will generate more taxable distributions for you than one who doesn't. Since taxes detract from your final return, we subtract them from each fund's performance. We've even added a column breaking out just what the IRS would claim.

The sales loads and annual expenses, which we call fees, are also listed. Annual expenses cover the operating costs of the funds. By SEC regulation, any advertised return must subtract this operating fee. A sales load is the commission paid to brokers or direct marketers who sell the fund. Funds don't subtract that from their reported results, but we do. Frequently brokers receive their commission when a fund is first sold. Alternatively, brokers can claim redemption fees or back-end loads that are taken when the investor withdraws money from a fund. Back-end loads usually decline over time to encourage you to stay in the fund longer. In our calculation, we assumed that back-end loads decline one percentage point every year.

A bite here, a bite there. It all adds u After all taxes and expenses, even some the best-performing stock funds failed beat the 8.16% annual after-tax return the Standard & Poor's 500-stock index ov the past three years. But most did. **Sel man Capital**, one of the top-performing a gressive growth funds, managed an 11.3 average annual three-ye return. That's what it paid ter subtracting 2.7% for t es and 1.7% for a load. Ima ine if its starting returns h been just 7.7%—the avera for aggressive growth fun Your average annual thre year return would have be 3.3%, not much more th you could have made in savings account.

The best fund overall w the growth fund **MIM Sto Appreciation**, with a 19% average annual return ov three years. Although it c ries a handicap of high annu expenses—2.9% of assets—doesn't charge a load. A because it focuses on capi gains rather than income, paid out only 1.4 percenta points of return in taxes. A category, small-stock fun have lots of double-digit turns, led by **MFS Lifeti Emerging Growth**'s 18.2 average annual return. M is a winner despite a 6% bac end load and high 2.3% ann al expenses.

Because overall retur

ILLUSTRATIONS BY JIM McMAN

are likely to be lower in the slow-growth Nineties than in the go-go Eighties, it's crucial to keep expenses of all kinds minimal. Paul Disdier, manager of Dreyfus's **General Municipal Bond** fund, would be a Scrooge's delight. With no sales load, a bare 0.01% expense ratio, and so little trading that taxes took only 0.1%, he returned a sweet 11.1% on average. Although it is hard to predict how much you'll lose to taxes, there are a few clues to look for. Yield-oriented funds tend to produce the highest taxable income. If you need the money, that's fine. If not, invest in a growth fund that seeks out capital appreciation and not dividends.

Turnover measures how frequently securities are bought and sold, a process that generates lots of commissions and exposes you to potential capital gains taxes. By law, funds must pay out all of their realized capital gains, net of any losses. The higher a manager's turnover, the more likely he is to be paying out gains, and the more likely you are to be stuck paying taxes. A better strategy is to select a fund where the manager buys and sells infrequently, allowing his unrealized gains to grow while minimizing the tax bite for you. A turnover of 100% means that a manager's trading volume in one year equals 100% of his assets. Last year the average equity fund turned over 90% of its assets and the average taxable bond fund turned over 125%.

A high turnover usually means higher taxes for you.

Our list excludes funds that are closed or that are not available to investors in a majority of states. In the interest of diversity, we've also excluded funds that limit their holdings to any one industry sector, state, or foreign country. And perhaps most important, we've excluded any fund that changed its manager—or entire team of managers—during the three-year period. Now, get to it.

REPORTER ASSOCIATE *Rosalind Klein Berlin*

THE TOP FUNDS BY CATEGORY

MUTUAL FUND TELEPHONE	AVG. ANNUAL RETURN (tax and load adjusted) 3 yrs.	1 yr.	PERCENTAGE LOST FROM TAXES 3 yrs.	1 yr.	FEES Sales load	Annual expenses	TURNOVER	ASSETS 6/30/92 in millions	MANAGER
STOCK FUNDS									
AGGRESSIVE GROWTH GROUP AVERAGE[1]	6.3%	-2.1%							
Wasatch Aggressive Equity 800-551-1700	14.8%	2.4%	0.6%	1.4%	None	1.91%	41%	$12	Samuel Stewart
Enterprise Capital Appreciation 800-432-4320	14.3%	9.1%	0.4%	0.0%	4.75%	1.75%	40%	$50	Jeffrey J. Miller
Kaufmann 800-237-0132	12.8%	4.7%	0.4%	1.0%	0.20%[2]	3.64%	128%	$174	L. Auriana, H. P. Utsch
Thomson Opportunity B 800-227-7337	12.3%	12.6%	2.5%	3.0%	1.00%[2]	1.90%	145%	$140	Dan Chibouras
Seligman Capital 800-221-2783	11.3%	1.9%	2.7%	4.2%	4.75%	1.01%	42%	$166	Lore D. Mozzon
Piper Jaffray Sector Performance 800-866-7778	10.3%	1.4%	0.5%	0.1%	4.00%	1.32%	507%	$9	Edward P. Nicoski
AIM Constellation 800-347-4246	10.3%	2.7%	1.9%	0.5%	5.50%	1.20%	109%	$787	H. Hutzler, J. Schoolar
Princor Emerging Growth 800-451-5447	9.9%	6.5%	0.9%	1.0%	5.00%	1.61%	5%	$26	Michael R. Hamilton
ABT Emerging Growth 800-289-2281	8.3%	1.4%	4.5%	5.7%	4.75%	1.59%	108%	$26	Harold J. Ireland Jr.
Dreyfus Capital Growth 800-645-6561	7.4%	3.9%	2.0%	3.0%	3.00%	1.14%	81%	$504	Howard Stein
GROWTH GROUP AVERAGE[1]	4.5%	0.7%							
PBHG Stock Appreciation 800-233-1240	19.9%	8.8%	1.4%	3.6%	None	2.90%	240%	$25	Arthur J. Bonnel
Berger 100 800-333-1001	16.0%	5.3%	2.3%	0.4%	None	2.24%	78%	$358	W. Berger, R. Linafelter
Monetta 800-666-3882	15.5%	6.0%	2.4%	2.5%	None	1.42%	154%	$231	Robert S. Bacarella
Vanguard World U.S. Growth 800-992-0414	14.9%	8.4%	0.5%	0.4%	None	0.61%	69%	$1,276	P. Hall, D. Fowler
Janus Twenty 800-525-8983	14.8%	6.3%	0.7%	0.5%	None	1.01%	83%	$2,117	Thomas F. Marsico
Steinroe Stock 800-338-2550	13.8%	7.8%	1.5%	1.7%	None	0.92%	34%	$328	Multiple managers
Princor Growth 800-451-5447	12.3%	7.5%	1.2%	1.2%	5.00%	1.07%	14%	$56	Michael R. Hamilton
Fidelity Disciplined Equity 800-544-8888	11.7%	12.3%	1.5%	3.1%	0.50%[2]	1.18%	286%	$245	Brad Lewis
Twentieth Cent. Growth Investors 800-345-2021	11.6%	8.1%	1.1%	0.0%	None	1.00%	31%	$4,084	Multiple managers
Wasatch Growth 800-551-1700	11.5%	2.7%	1.6%	1.6%	None	1.51%	37%	$14	Jeff Cardon
GROWTH AND INCOME GROUP AVERAGE[1]	4.3%	2.6%							
Berger 101 800-333-1001	13.0%	9.2%	1.4%	3.1%	None	2.66%	143%	$26	W. Berger, R. Linafelter
MAS Pooled Select Equity 800-354-8185	11.0%	9.9%	1.0%	1.0%	None	0.60%	29%	$204	Multiple managers
Franklin Rising Dividends 800-342-5236	9.8%	4.8%	0.8%	0.6%	4.00%	1.53%	17%	$99	Lippman, Boughman
MAS Pooled Equity 800-354-8185	9.6%	6.7%	1.6%	1.5%	None	0.60%	33%	$897	Multiple managers
Gateway Index Plus 800-354-6339	9.6%	7.4%	3.2%	1.6%	None	1.13%	24%	$129	Peter Thaver
Dreman High Return 800-533-1608	9.2%	6.2%	2.3%	1.2%	None	1.25%	37%	$11	David N. Dreman
AIM Charter 800-347-4246	9.1%	3.7%	2.2%	1.4%	5.50%	1.15%	144%	$1,058	J. A. Lerner, L. Sachnowitz

Performance is through August 1992 and net of annual expenses, brokerage costs, and sales loads, also net of taxes, assuming a 28% rate for capital gains and income distributions. [1]Percent of portfolio assets that were bought or sold over the past year. [2]Average annual return for all funds tracked by Morningstar in each category. [3]Redemption fee.

STOCK FUNDS

MUTUAL FUND TELEPHONE	AVG. ANNUAL RETURN (tax and load adjusted) 3 yrs.	1 yr.	PERCENTAGE LOST FROM TAXES 3 yrs.	1 yr.	FEES Sales load	Annual expenses	TURN-OVER[2]	ASSETS 6/30/92 in millions	MANAGER
GROWTH AND INCOME CONT'D									
SteinRoe Prime Equities 800-338-2550	**8.7%**	9.3%	**1.3%**	1.3%	None	1.00%	**48%**	**$64**	Ralph Segall
John Hancock Sovereign Inv. 800-225-5291	**8.5%**	2.2%	**2.8%**	2.4%	5.00%	1.18%	**67%**	**$482**	Multiple managers
MainStay Value 800-522-4202	**8.1%**	6.2%	**2.1%**	3.0%	5.00%[4]	1.90%	**150%**	**$72**	D. LaPlaige, T. Kolefas
EQUITY INCOME GROUP AVERAGE[3]	**4.1%**	**5.2%**							
Capital Income Builder 800-421-0180	**10.2%**	9.3%	**1.8%**	2.2%	5.75%	0.98%	**14%**	**$926**	Multiple managers
Kidder Peabody Equity Income 800-238-7753	**10.0%**	0.3%	**0.7%**	0.3%	5.75%	1.37%	**67%**	**$146**	John D. Chadwick
Financial Industrial Income 800-525-8085	**9.6%**	2.6%	**2.9%**	1.9%	None	0.94%	**104%**	**$2,093**	J. Kaweske, P. Dubuque
Stratton Monthly Div. Shares 800-634-5726	**8.6%**	15.5%	**2.5%**	2.3%	None	1.15%	**41%**	**$62**	James W. Stratton
USAA Income Stock 800-531-8181	**8.4%**	12.7%	**2.2%**	1.7%	None	0.77%	**27%**	**$384**	Harry W. Miller
Shearson Premium Total Return 212-464-8068	**7.6%**	4.2%	**2.7%**	2.5%	5.00%[4]	1.70%	**43%**	**$553**	J. Fullerton, P. Zuch
SteinRoe Total Return 800-338-2550	**7.5%**	8.3%	**2.4%**	2.3%	None	0.84%	**71%**	**$166**	Robert A. Christensen
Dean Witter Equity Income 800-869-3863	**6.3%**	2.7%	**3.0%**	3.6%	5.00%[4]	2.13%	**131%**	**$140**	Ken Hinchliffe
Parkstone High-Income Equity 800-451-8377	**5.7%**	0.7%	**1.8%**	2.0%	4.50%	1.18%	**116%**	**$271**	Roger H. Stamper
Helmsman Inc. Eq. Inv. Shares 800-338-4345	**5.7%**	1.7%	**1.4%**	1.1%	5.50%	0.30%	**9%**	**$118**	Ralph F. Patek
SMALL COMPANY GROUP AVERAGE[3]	**5.4%**	**1.6%**							
MFS Lifetime Emerging Growth 800-225-2606	**18.2%**	9.3%	**0.5%**	1.4%	6.00%[4]	2.28%	**112%**	**$255**	John W. Ballen
Twentieth Century Ultra Investors 800-345-2021	**15.7%**	-1.7%	**1.3%**	0.0%	None	1.00%	**39%**	**$3,754**	Multiple managers
United New Concepts 800-366-5465	**14.8%**	-1.5%	**0.6%**	0.1%	8.50%	1.23%	**74%**	**$159**	Mark G. Seferovich
Robertson Stephens Emerg. Gr. 800-766-3863	**13.5%**	-9.8%	**2.8%**	1.4%	None	1.59%	**147%**	**$198**	Robert C. Czepiel
John Hancock Special Equities 800-225-5291	**12.7%**	5.3%	**0.7%**	1.9%	5.00%	2.14%	**163%**	**$34**	Michael P. DiCarlo
Oberweis Emerging Growth 800-323-6166	**12.6%**	-4.4%	**2.1%**	5.3%	None	2.13%	**114%**	**$33**	James Oberweis
Transamerica Spec. Emerg. Grth. 800-343-6840	**12.0%**	-5.2%	**0.2%**	0.1%	6.00%[4]	2.85%	**66%**	**$71**	Edgar H. Larsen
FAM Value 800-932-3271	**11.8%**	6.6%	**0.7%**	1.7%	5.00%[4]	1.49%	**14%**	**$22**	T. Putnam, D. Van Buren
Skyline Special Equities 800-458-5222	**11.5%**	15.2%	**3.0%**	5.7%	None	1.55%	**104%**	**$57**	Bill Dutton
Meridian 800-446-6662	**11.3%**	11.1%	**2.6%**	2.9%	None	1.90%	**77%**	**$18**	Richard F. Aster Jr.
INTERNATIONAL GROUP AVERAGE[3]	**-0.5%**	**-0.3%**							
Smith Barney Intl. Equity 800-544-7835	**6.7%**	-3.5%	**1.4%**	3.0%	4.50%	2.88%	**67%**	**$122**	Multiple managers
EuroPacific Growth 800-421-0180	**6.4%**	3.3%	**1.1%**	0.5%	5.75%	1.24%	**10%**	**$2,266**	Multiple managers
Warburg Pincus Intl. Equity 800-888-6878	**6.2%**	-0.9%	**0.7%**	0.6%	None	1.50%	**33%**	**$121**	Richard H. King
Babson-Stewart Ivory Intl. 800-422-2766	**6.1%**	13.5%	**0.4%**	0.3%	None	1.75%	**52%**	**$18**	John G.L. Wright
Harbor International 800-422-1050	**5.8%**	3.2%	**1.1%**	0.4%	None	1.23%	**29%**	**$614**	Hakan Castegren
Templeton Foreign 800-237-0738	**5.1%**	0.0%	**2.3%**	2.4%	5.75%	0.88%	**19%**	**$1,649**	Mark G. Holowesko
USAA International 800-531-8181	**5.0%**	10.0%	**0.6%**	0.2%	None	1.74%	**64%**	**$39**	David G. Peebles
Fidelity Intl. Growth & Income 800-544-8888	**3.9%**	3.5%	**0.6%**	0.4%	2.00%	1.77%	**77%**	**$66**	John R. Hickling
MAS Pooled International Equity 800-354-8185	**3.0%**	3.2%	**1.1%**	1.5%	None	0.67%	**51%**	**$480**	Multiple managers
T. Rowe Price Intl. Stock 800-638-5660	**3.0%**	2.6%	**1.9%**	1.9%	None	1.10%	**45%**	**$1,863**	Martin G. Wade
GLOBAL GROUP AVERAGE[3]	**-0.1%**	**-1.1%**							
Dreyfus Strategic World Inv. 800-782-6620	**8.5%**	2.1%	**0.0%**	0.0%	3.00%	1.62%	**420%**	**$85**	Fiona Biggs
New Perspective 800-421-0180	**4.8%**	1.8%	**2.1%**	1.1%	5.75%	0.86%	**8%**	**$2,920**	Multiple managers
Oppenheimer Global 800-525-7048	**4.5%**	-2.8%	**1.9%**	0.6%	5.75%	1.35%	**20%**	**$1,260**	Kenneth J. Oberman
Scudder Global 800-225-2470	**4.2%**	6.7%	**1.3%**	1.5%	None	1.62%	**41%**	**$371**	William E. Holzer
Bull & Bear U.S. and Overseas 800-847-4200	**3.6%**	-0.9%	**1.7%**	3.0%	None	3.56%	**208%**	**$11**	Robert W. Radsch
Templeton Growth 800-237-0738	**2.8%**	-0.1%	**2.6%**	3.2%	5.75%	0.82%	**30%**	**$3,332**	Mark G. Holowesko
G.T. Worldwide Growth 800-824-1580	**2.7%**	-3.9%	**0.5%**	0.3%	4.75%	2.00%	**122%**	**$146**	C. Wignall, S. Betterton
Paine Webber Gl. Grth. & Inc. A 800-647-1568	**1.5%**	0.4%	**2.4%**	1.2%	4.50%	1.75%	**65%**	**$73**	Nimrod Fachler
Putnam Global Growth A 800-225-1581	**1.2%**	-3.2%	**1.4%**	1.1%	5.75%	1.47%	**71%**	**$670**	Anthony W. Regan
Merrill Lynch International B 800-637-3863	**1.1%**	0.3%	**1.3%**	0.6%	4.00%[4]	2.51%	**64%**	**$24**	Frederick Ives

[1]Performance is through August 1992 and net of annual expenses, brokerage costs, and sales loads, also net of taxes, assuming a 28% rate for capital gains and income distributions. [2]Percent of portfolio assets that were bought or sold over the past year. [3]Average annual return for all funds tracked by Morningstar in each category. [4]Deferred sales charge, which declines over time.

MUTUAL FUND TELEPHONE	AVG. ANNUAL RETURN tax and load adjusted 3 yrs.	1 yr.	PERCENTAGE LOST FROM TAXES 3 yrs.	1 yr.	FEES Sales load	Annual expenses	TURN-OVER[1]	ASSETS 6/30/92 in millions	MANAGER
HYBRIDS									
BALANCED GROUP AVERAGE[3]	**8.4%**	**4.1%**							
Twentieth Cent. Bal. Investors 800-345-2021	**11.2%**	6.2%	**1.2%**	0.6%	None	1.00%	**69%**	**$560**	Multiple managers
Kemper Invest. Port. Total Ret. 800-621-1048	**10.3%**	6.6%	**1.3%**	1.4%	3.00%[4]	2.11%	**121%**	**$931**	C. Beth Cotner
Pasadena Balanced Return 800-533-8636	**9.3%**	1.7%	**1.0%**	0.4%	5.50%	2.50%	**5%**	**$29**	Roger Engemann
Pax World 800-767-1729	**9.2%**	-0.6%	**2.9%**	3.4%	None	1.20%	**26%**	**$369**	Anthony S. Brown
Fidelity Balanced 800-544-8888	**8.9%**	10.1%	**2.6%**	2.7%	None	0.92%	**288%**	**$1,232**	Robert J. Haber
CGM Mutual 800-345-4048	**8.8%**	2.3%	**2.5%**	3.7%	None	0.93%	**201%**	**$475**	G. Kenneth Heebner
Phoenix Balanced 800-243-4361	**8.2%**	2.0%	**2.5%**	3.1%	4.75%	1.02%	**134%**	**$1,725**	Patricia Bannan
Equitable Balanced Back-Load 800-852-6860	**8.0%**	-0.7%	**1.6%**	2.3%	5.00%[4]	2.15%	**103%**	**$32**	Judith A. Taylor
MainStay Total Return 800-522-4202	**7.9%**	-3.3%	**1.7%**	2.2%	5.00%[4]	1.80%	**213%**	**$265**	R. Akhoury, E. Spelman
Kemper Total Return 800-621-1048	**7.5%**	-2.4%	**1.6%**	1.5%	5.75%	1.03%	**157%**	**$1,144**	Gordon P. Wilson
CONVERTIBLE BOND GROUP AVERAGE[3]	**5.2%**	**6.3%**							
Lexington Convertible Securities 800-526-0057	**8.5%**	6.1%	**1.2%**	0.5%	None	2.50%	**29%**	**$6**	Richard B. Russell
Pacific Horizon Capital Income 800-332-3863	**8.2%**	7.6%	**2.7%**	2.7%	4.50%	0.90%[5]	**278%**	**$7**	William Hensel
Vanguard Convertible Securities 800-662-7447	**7.0%**	13.9%	**1.8%**	1.7%	None	0.86%	**62%**	**$77**	Rohit M. Desai
Calamos Small/Mid Cap Conver. 800-323-9943	**6.7%**	5.0%	**1.6%**	2.3%	4.50%	2.00%	**112%**	**$3**	J. P. & N. P. Calamos
SBSF Convertible Securities 800-422-7273	**6.3%**	11.3%	**2.6%**	2.4%	None	1.37%	**53%**	**$34**	Louis R. Benzak
BOND FUNDS									
JUNK GROUP AVERAGE[3]	**4.3%**	**14.0%**							
Merrill Lynch High-Income B 800-637-3863	**10.0%**	16.0%	**4.0%**	3.8%	4.00%[4]	1.36%	**40%**	**$641**	Vincent T. Lathbury
Merrill Lynch High-Income A 800-637-3863	**9.4%**	16.6%	**4.2%**	4.1%	4.00%	0.60%	**40%**	**$629**	Vincent T. Lathbury
Oppenheimer Champ. High-Yield 800-525-7048	**9.1%**	10.6%	**4.0%**	3.9%	4.75%	1.49%	**115%**	**$37**	Ralph W. Stellmacher
Liberty High-Income Bond 800-245-4770	**8.3%**	15.8%	**4.2%**	3.9%	4.50%	1.02%	**37%**	**$358**	Mark E. Durbiano
Kemper Diversified Income 800-621-1048	**7.8%**	14.3%	**4.1%**	3.6%	4.50%	1.21%	**20%**	**$255**	Michael A. McNamara
MORTGAGE-BACKED GROUP AVERAGE[3]	**7.3%**	**5.7%**							
Vanguard Fixed Income GNMA 800-662-7447	**9.7%**	10.6%	**2.6%**	2.5%	None	0.29%	**1%**	**$6,101**	Paul G. Sullivan
Benham GNMA Income 800-472-3389	**9.2%**	10.1%	**2.6%**	2.4%	None	0.62%	**97%**	**$829**	Randy Merk
Scudder GNMA 800-225-2470	**9.1%**	10.1%	**2.6%**	2.5%	None	0.99%	**147%**	**$412**	David H. Glen
Federated GNMA Trst. Inst. Sh. 800-245-2423	**9.1%**	9.6%	**2.7%**	2.5%	None	0.51%	**57%**	**$1,528**	Gary J. Madich
Lexington GNMA Income 800-526-0057	**9.0%**	10.1%	**2.6%**	2.3%	None	1.02%	**139%**	**$131**	Denis Jamison
TREASURY GROUP AVERAGE[3]	**8.0%**	**10.0%**							
Dreyfus 100% U.S. Treas. L-T 800-782-6620	**9.1%**	13.1%	**2.6%**	2.5%	None	0.56%	**21%**	**$226**	Barbara L. Kenworthy
Federated Inter. Govt. Trust 800-245-2423	**8.7%**	10.5%	**2.2%**	1.9%	None	0.50%	**108%**	**$736**	R. A. Early, S. M. Nason
Dreyfus 100% U.S. Tr. Inter. 800-782-6620	**8.7%**	12.2%	**2.6%**	2.5%	None	0.49%	**22%**	**$203**	Barbara L. Kenworthy
Vanguard Fixed Inc. L-T U.S. 800-662-7447	**8.4%**	11.8%	**2.5%**	2.7%	None	0.26%	**89%**	**$835**	I. MacKinnon, A. Jiorle
Rushmore U.S. Govt. Inter.-Term 800-343-3355	**8.3%**	13.3%	**2.4%**	2.1%	None	0.79%	**106%**	**$16**	Daniel L. O'Connor
MUNICIPAL GROUP AVERAGE[3]	**7.8%**	**6.9%**							
General Municipal Bond 800-645-6561	**11.1%**	13.2%	**0.1%**	0.1%	None	0.01%	**38%**	**$932**	A. Paul Disdier
Scudder High Yield Tax Free 800-225-2470	**10.2%**	13.2%	**0.3%**	0.5%	None	1.00%	**46%**	**$178**	Philip G. Condon
Vanguard Municipal High-Yield 800-662-7447	**10.0%**	12.5%	**0.4%**	0.3%	None	0.22%	**78%**	**$1,469**	I. MacKinnon, J. Jacobs
Vanguard Municipal L-T 800-662-7447	**9.9%**	12.0%	**0.5%**	0.6%	None	0.22%	**74%**	**$931**	I. MacKinnon, J. Jacobs
Safeco Municipal Bond 800-426-6730	**9.6%**	11.4%	**0.3%**	0.3%	None	0.54%	**25%**	**$475**	Steve Bauer
GLOBAL GROUP AVERAGE[3]	**5.1%**	**9.1%**							
Scudder International Bond 800-225-2470	**15.7%**	20.1%	**3.9%**	4.8%	None	1.25%	**104%**	**$541**	F. Mark Turner
T. Rowe Price International Bond 800-638-5660	**13.0%**	22.1%	**2.9%**	2.9%	None	1.10%	**296%**	**$521**	David Boardman
Van Eck World Income 800-221-2220	**11.6%**	13.0%	**3.5%**	3.2%	4.75%	1.39%	**109%**	**$221**	K. Buescher, D. Kenerson Jr.
Merrill Lynch Gl. Bnd. for Inv. B 800-637-3863	**11.1%**	11.1%	**3.1%**	2.9%	4.00%[4]	1.65%	**68%**	**$466**	David B. Walter
MFS Worldwide Governments 800-225-2606	**10.9%**	14.5%	**2.4%**	2.5%	4.75%	1.61%	**208%**	**$323**	Leslie J. Nanberg

[1]Performance is through August 1992 and net of annual expenses, brokerage costs, and sales loads; also net of taxes, assuming a 28% rate for capital gains and income distributions. [2]Percent of portfolio assets that were bought or sold over the past year. [3]Average annual return for all funds tracked by Morningstar in each category. [4]Deferred sales charge, which declines over time. [5]Currently absorbed by the management company.

SHOULD YOU KEEP IT ALL IN THE FAMILY?

Fidelity. Vanguard. Merrill Lynch. To investors, the names are as familiar as Kellogg, Ford, or GE. But chances are you know more about corn flakes or your Ford Taurus than about the specific funds in a big fund family. Usually it's the performance of a star fund that lures in your first dollar. But how good are your second, third, and fourth fund picks?

FORTUNE studied the performance of stock and bond funds within each of the top ten fund families, ranked by assets under management as of June. Amenities like check cashing or fund transfer privileges are nice. But here we focused only on the bottom line: How many funds outdid their respective peer group averages? Also, how many domestic stock funds returned more than Standard & Poor's 500-stock index over the three-year period ended August 31? The numbers we used were those reported by the funds themselves; the returns were *not* subject to the tax and sales-load deflator applied to the winners on our list of the Best Mutual Funds.

The numbers indicate that even top fund families can't always be relied upon for superior performance. At six of the families, over half the stock funds failed to keep up with the S&P 500; only at Putnam did more than 50% beat the index. Even though Putnam placed just one winner on our Best Mutual Funds list—**Putnam Global Growth A**—all its funds made money during the past three years.

In head-to-head competition among funds within a specific group—international stocks, say, or small-cap stocks—most of the big fund families look better. IDS, a subsidiary of American Express, had the best record: Nearly 80% of its stock funds beat their group averages. By patiently holding winners like Philip Morris and Wal-Mart Stores in its growth stock funds, IDS came through with a slew of champs.

Most bond fund managers performed creditably, with the exception of Dean Witter and Prudential, four-fifths of whose fixed-income funds lagged behind group averages. The **Dean Witter Convertible Securities** fund, for example, returned only 2.8% per year, vs. 8.2% for the average convertible fund. Vanguard is the hands-down champion among bond fund families; 19 of its 21 funds with three-year records scored in the top half of their peer group. Vanguard's expenses are routinely the lowest in the industry, an edge that to Treasury fund managers is akin to giving a 100-meter runner a head start.

Vanguard is much slower out of the block with its stock funds. In fairness, that's partly because it sells so many index funds, the best known being the $5.8 billion **Vanguard Index 500**. Because the funds simply aim to match whatever market they are indexed to, they obviously come up short after subtracting expenses—even Vanguard's minuscule ones.

Fidelity is another story. On our list of the Best Mutual Funds, it shows up in the growth stock, the international stock, and the balanced categories. Despite its size—it has more assets, $87 billion, and more stock and bond funds by far, 124, than any other family—Fidelity is remark-

WHICH FUND FAMILIES REALLY DELIVER?

FUND FAMILY	NET ASSETS in billions	STOCK FUNDS Number of funds	STOCK FUNDS % beating S&P 500	STOCK FUNDS % above group average	BOND FUNDS Number of funds	BOND FUNDS % above group average
Fidelity	$87.1	77	50%	68%	47	63%
[illegible]	$72.6	21	44%	69%	19	50%
Vanguard	$66.2	29	21%	46%	21	89%
[illegible]	$54.9	13	42%	67%	9	56%
Putnam	$34.0	22	54%	54%	26	67%
[illegible]	$32.8	36	17%	41%	39	61%
IDS	$25.2	17	50%	79%	16	56%
[illegible]	$24.6	11	50%	70%	10	20%
Dreyfus	$22.5	13	36%	73%	21	50%
[illegible]	$19.1	23	18%	36%	38	17%

IM MCMANUS FOR FORTUNE
SOURCE: MORNINGSTAR

All performance measures are based on three-year returns through August 1992.
[1]As of June 30, 1992, for all stock and bond funds. [2]Includes only domestic stock funds.
[3]Group average is the average annual return for each stock and bond fund's respective group category.

ably agile. The firm is chockablock with talented managers and is widely regarded as the best training ground for up-and-comers. In-house competition is fierce as managers hop from fund to fund, directing ever larger sums of money. Fidelity is one of the few places where rapid management turnover doesn't seem to crimp performance.

The American Funds Group in Los Angeles operates much differently than Fidelity but still turns in impressive results. American's **Capital Income Builder** is the best-performing equity income fund on our list. The firm has no management stars; instead, each of its funds is run by a group of people who divvy up a portfolio and invest independently. Consistency is a hallmark of the American funds, which tend to buy for the long term.

Franklin's acquisition of Templeton, announced this summer, created a whole new kind of fund family. We've combined the two companies on our chart, and the wisdom of melding world stock scion Templeton with bond baron Franklin is apparent. Templeton has five stock funds that invest overseas, and four of them, led by **Templeton Foreign**, beat the averages. Franklin's bond funds weren't quite as impressive, but half still returned more than their peers.

Among the big brokerage firms, performance is fairly dismal. It's not that they don't have good funds; **Merrill Lynch Corporate High-Income A** and **B** were our junk bond winners. It's just that they have so many bad ones. Prudential, for example, sells too many funds like **Prudential Growth B**, which has earned hardly anything for investors over the past three years. Add in its 5% back-end load, and you actually lose money.

There are many reasons to invest with a single fund company. Over time you become familiar with the sales reps and the annual reports. And it's nice to be able to switch assets quickly and easily among different types of funds within the family. Just make sure you examine the investment strategies of the family and its various funds as carefully as you look at the fat content of your corn flakes.

Fidelity has more money in stock and bond funds than any other family, and more than half its funds beat their three-year peer group averages.

WINNERS WIN AND LOSERS LOSE

You've got the Daily Racing Form *in your hand, and the ticket window beckons. You've looked over the horses, you know who's sired whom, and you've even checked out the turf. Now you're studying the most important thing, the horses' win-place-show records. Sure, you want to bet on an occasional long shot. But put most of your money on proven winners, horses that have outrun the pack before and will do it again.*

Gambling on horses is not the same as gambling with your savings. But when you buy a mutual fund, you should use a similar strategy. Once you've settled on the kind of fund you want to buy, the first thing you should look at is past performance. Over time, winners win and losers lose. Since 1988 the best diversified fund has been Roger Engemann's **Pasadena Balanced Return**, with a 16.6% average annual return before deducting sales loads and taxes. **Steadman American Industry**, a growth and income fund that has lost 17.5% a year on average since 1988, has been in or near the cellar every year since 1981.

Keep in mind that one year does not a dynasty make. **Dean Witter High-Yield Securities** has the best 12-month record of any bond fund, returning 37% through August. But over the past five years, its average annual return has been a meager 2.4%. The fund's 1992 performance has not been enough to make up for years of subpar returns, notably a 40% loss in 1990. On the other hand, **Merrill Lynch Corporate High-Income A** returned 15.1% in the last year. Its five-year record is 12.3%. Over ten years, the fund has lost money only once.

Three- to five-year records are good tools to determine a fund's future performance, says Don Phillips, publisher of Morningstar. Ask your broker for them or look at the prospectus. Managers matter too. When a fund is run by one individual, the captain's personal record means everything. Merrill's junk fund has been managed by Vincent Lathbury since 1982. There's no guarantee he will continue to do well, but then again, how much would you have bet against Secretariat? Or take the growth fund winner **Janus Twenty**. In its first two

Portrait of a winner: Roger Engemann can afford to look comfortable.

calendar years of existence as a value fund, it lost money. In 1988, Thomas Marsico came on board and changed its orientation to growth. His fund returned 19% that year and 51% the next, broke even in 1990, and gained 69% in 1991.

Past performance can also be a helpful indicator of when to buy. When great funds consistently turn in solid numbers, there's little harm in purchasing them at whim. American Funds' **EuroPacific Growth** is a fine example of an all-weather, anytime foreign stock fund. It has never lost more than 1% a year since it was started in 1984, despite yo-yo returns in its markets. With top funds that are more volatile, you may want to consider dollar cost averaging—investing a certain amount each month. Alternatively, buy them when they're down. Janus Twenty is off nearly 10% this year, but it still gets Morningstar's highest five-star rating. A good bet? F

GO ABROAD FOR BIGGER RETURNS

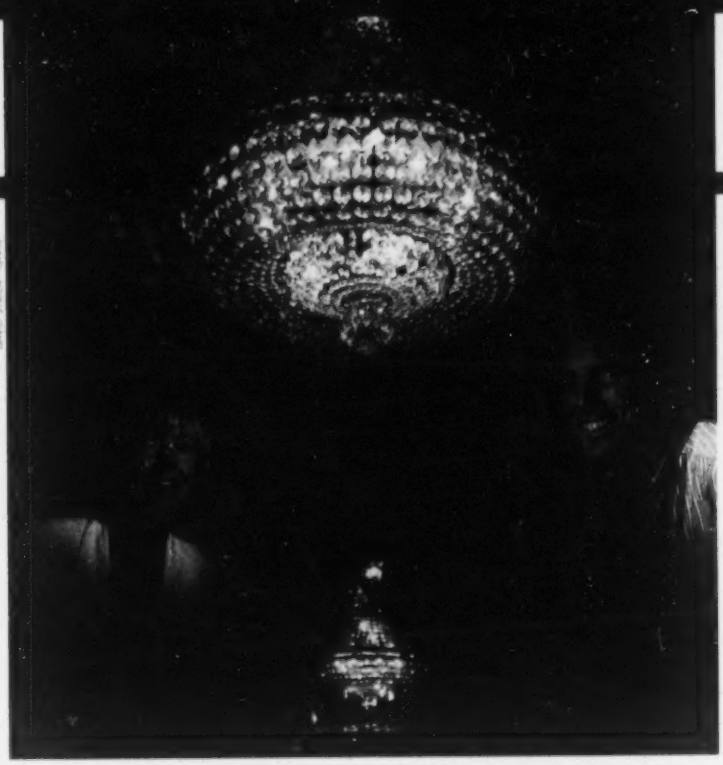
Foreign stock markets offer greater growth potential than those in the U.S. To invest in them, you can choose from more than 200 mutual funds or a growing list of ADRs. ■ *by Joshua Mendes*

BUY MEXICAN STOCKS? That's certainly not something Bonnie and Timothy Sprague had thought of five years ago. For the husband-and-wife radiologists from Santa Monica, California, Mexico was a place to *spend* money—on vacation—not make it. Today, because of a cocktail party conversation with a Merrill Lynch broker, the Spragues have tripled their initial $4,100 investment in Teléfonos de México, the national telephone company. They have also bought shares of companies in Britain and Hong Kong, two Pacific Rim mutual funds, a Latin American fund, and a global fund—all profitably.

There have been some bumps down south. Telmex and an investment in Mexican retailer Cifra six months ago are both down 25% from their highs this year along with the market. But the Spragues are sticking with them. Says Bonnie: "You have to ride the ups and downs. Hey, I bought IBM and Digital several years ago, and you see what happened to them."

The Spragues are hardly unique anymore. Last year U.S. investors, including both individuals and institutions, bought a record $35 billion of foreign stocks—nearly three times the previous record in 1989. The reason is simple enough: Foreign markets have been more profitable. Of 18 major stock markets tracked by Morgan Stanley over the past ten years through August, the U.S. ranked 12th, with a total return of 351%, including reinvested dividends. In the lead was Belgium (yes, Belgium!), with

Europe has strong companies whose shares are cheaper than U.S. competitors'. Alastair Ross Goobey, of James Capel in London, likes BAT Industries.



The Spragues have good reason to smile. Nearly all their foreign investments are up.

a return of 1,080%, followed by the Netherlands, with 781%, and France, with 671%. Not once in those years did the U.S. rank first, and it ranked in the bottom half five times.

Investing abroad also spreads your risk, since global markets usually do not move together. Says John Bolsover, who oversees $34 billion for Baring Asset Management in London: "It's no more complex than the all-the-eggs-in-one-basket concept. Sometimes the basket drops." Take 1987, the year of the crash. U.S. stocks were up just 3%—less than the rate on three-month Treasury bills. While some markets suffered even more—Germany was down 25%—Britain rose 35%.

There are over 200 U.S.-based mutual funds that invest in foreign stocks, nearly triple the number five years ago. That includes about 65 global funds, which invest anywhere in the world; 85 international funds, which invest everywhere but the U.S.; 45 regional funds, which invest in just one part of the world, such as the Pacific Rim or Latin America; and 40 single-country funds. In addition, the number of foreign companies that sell shares through American depositary receipts (ADRs) has tripled in five years to about 450.

Still, as with any investment, the question remains: Where in the world should you put your money now? Here are some ideas culled from dozens of interviews with investment professionals around the world.

EUROPE

■ Europe has a large number of globally competitive companies whose shares are far cheaper than those of their U.S. counterparts. The average price/earnings ratio for most European markets is between 13 and 15—compared with well over 20 in the U.S.—and the average dividend yield is 50% higher. The one problem—and it's a big one—is Europe's economy, which is burdened with sluggish growth, widening budget deficits, and high unemployment rates. J.P. Morgan forecasts GDP to grow just 1%, on average, for European countries this year.

Partly, Europe is suffering from too much borrowing and spending in the 1980s. But the immediate problem is Germany, which has been keeping interest rates painfully high to fight inflationary pressures caused by the country's huge spending for unification. That policy has clashed with Europe's own drive for economic and political unity, which has included keeping currencies generally aligned. To do so, other European countries until recently have had to keep their interest rates high, stifling business activity.

When the strain grew too great in September, Britain and Italy, among others, lowered interest rates and allowed their currencies to plummet. Germany finally lowered its own rates slightly and may well ease further in the months ahead. Alastair Ross Goobey, chief investment strategist at James Capel in London, predicts that Germany's central bank will lower rates in several steps by another one to 1.5 percentage points by early next year.

Lower interest rates would lift stocks, but U.S. investors should also protect themselves against currency risk because falling rates would push down European currencies, which have risen this year to historically high levels against the dollar. One solution is options or futures that rise in value as the dollar does. However, these instruments can be complicated and expensive. An easier way is to buy such European stock funds as **GT Europe Growth**, which hedge currency exposure for you. GT was recently spending about 3% of assets to hedge 50% of its currency risk, but the fund expects to more than make up that through a rise in stock prices.

If you want to invest directly in stocks, European professionals suggest buying shares of companies with large, profitable U.S. operations that will benefit from a rise in the dollar. Goobey of James Capel likes two British concerns: **Grand Metropolitan**, which receives about half its profits from American food and beverage businesses, including Burger King and Pillsbury; and **BAT Industries**, the world's second-largest tobacco company after Philip Morris, which earns more than 70% of its profits from the U.S. Both available through ADRs, they sell at around 12 times Goobey's estimate of 1993 earnings. BAT also packs a 6% yield.

Another tactic is to buy shares of big exporters whose products will become more competitively priced in the U.S. as the dollar strengthens. One company that should get a lift, says Alan Rubenstein, a director of Barclays de Zoete Wedd Investment Management in London, is **Rolls-Royce**, a maker of jet engines (the cars are made by Vickers). He thinks that the stronger dollar should help the company compete against General Electric and Pratt & Whitney. Rolls is doing fine anyway, with firm orders for more than 400 engines in each of the next two years. Rubenstein believes that the stock, which has an ADR traded over the counter, is ready to take off. It sells for just 13 times his estimate for 1993 earnings.

Drug companies, always large exporters to the U.S., are especially good bargains compared with their American rivals. John Horseman of Global Asset Management in London is bullish on **Astra** of Sweden, which has been increasing earnings at a 40% annual rate, helped by Losec, a new anti-ulcer drug. He also likes Swiss drugmakers **Roche** and **Sandoz**, which recently introduced ADRs in the U.S.

JAPAN

■ The pros disagree. That's always true. But the contrasting views are starker now in Japan. Barton Biggs, Morgan Stanley's worldwide investment strategist, is skeptical. Kenneth W. Anderson, a managing director of J.P. Morgan Investment Management, is bullish.

continued

Templeton's Mark Mobius (right), with his broker, checks out Korea.

Biggs was unimpressed when the Japanese government came up with its $86 billion bailout package in August to stem the Tokyo market's slide to a six-year low. Says he: "Government attempts to support stock markets have never worked anytime, anywhere. Finance ministers do not end bear markets." He believes the Nikkei average, Japan's leading market barometer, is still too high in light of problems at Japanese banks, which are staggering under the weight of billions of dollars in bad real estate loans. By his estimate, the market currently sells at about 50 times earnings for the fiscal year ending next March. "That's not what I call cheap," he says. He thinks the Nikkei, recently at about 18,000, could fall below 14,000.

Anderson's brighter view is based on the market's price-to-cash-flow multiple of 8.5 and price-to-book-value multiple of 1.9, both a touch below U.S. levels. He also points to Japan's balanced budget, unique among major industrial nations; its people, who work longer hours than Americans and Germans; and the country's famous annual personal savings rate, still impressively high at about 15%—nearly three times that of the U.S.

So which one do you follow? Joe Scott Plummer, chief investment officer of Martin Currie, one of Scotland's famed investment firms known for their patient, long-term approach, suggests a compromise, that old standby, "dollar cost averaging," where you invest a fixed amount of money at set intervals—say, $100 each month. This is easiest through a mutual fund like Scudder's **Japan Fund**, which will automatically transfer funds from your bank for you.

If you want to invest directly, a number of managers—including Biggs—would buy the big blue-chip exporters Japan is famous for, such as **Canon**, **Sony**, **Matsushita**, and **Hitachi** (all available through ADRs). While sales have been dampened by the global recession, these companies should emerge even more competitive because of heavy R&D investment and aggressive cost cutting. Plus, the price is right. All have price/earnings ratios below 20 and price-to-cash-flow ratios below 7, and sell near or below book value.

ASIA

■ There is no place in the world about which money managers are more enthusiastic. A typical comment comes from Keith Brown, chairman of London-based Worldinvest, which invests $4 billion for such blue-chip companies as McKinsey & Co. and Philip Morris: "If I had to leave my money in one area of the world and not touch it for ten years, that's where I'd put it."

Brown and other investment experts see a formidable group of competitors—Korea, Taiwan, Hong Kong, Singapore, Thailand, and Malaysia—that show no sign of easing up. Last year GDP of these countries grew over 7% on average for the third consecutive year, and J.P. Morgan estimates it will remain close to that in 1992 and 1993.

> Asia is the one place that money managers rave about.

The secret? Mostly it comes down to a strong work ethic, but the countries also benefit from young populations, strong family ties, pragmatic governments supportive of business, and—except in Malaysia—an absence of major religious or ethnic strife. For the U.S. investor, there is an added benefit—their currencies mostly are tied to the dollar, so you won't get hammered with currency losses when the dollar rallies.

Despite their attractiveness as a group, Asia's individual markets can be volatile. For that reason most investors would do well to choose a diversified mutual fund specializing in the region. To get the biggest bang, you'll want ones that exclude Japanese stocks, such as **T. Rowe Price New Asia** and **Newport Tiger**. If you're feeling confident about a specific market, there are closed-end single-country funds for individual countries that trade mostly on the New York Stock Exchange.

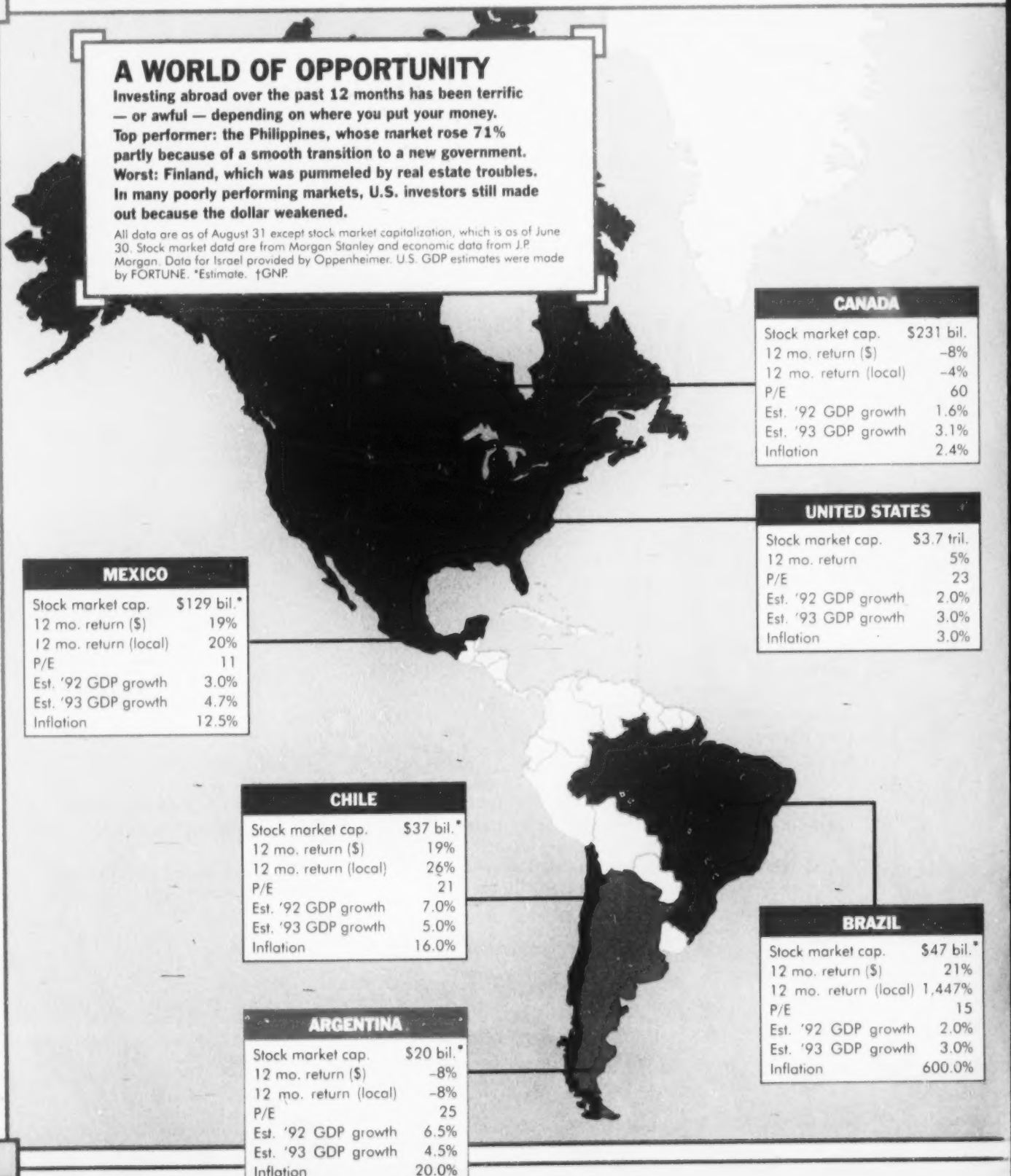
Hong Kong should be a good bet because of its role as the capitalist gateway to an increasingly open China, but since share prices have tripled since 1989, investors will find better values elsewhere. Mark Mobius, manager of the **Templeton Emerging Markets Fund**, is beginning to eye Korean stocks. Many have tumbled more than 50% from their overblown highs of the late 1980s. He is encouraged by the country's closer ties to North Korea, which could provide cheap labor, and to China, which could become an important market. Avoid the **Korea Fund**, which trades at a pricey 21% premium to net asset value, but consider the **Korea Investment Fund** if its 11% premium comes down a bit.

Other countries that have ridden out some bumps of late are Thailand and India. Both saw share prices decline earlier this year. Thailand's market reacted to a harsh government crackdown on protesters. The atmosphere is calmer now, but shares still sell for just 12 times earn-

A WORLD OF OPPORTUNITY

Investing abroad over the past 12 months has been terrific — or awful — depending on where you put your money. Top performer: the Philippines, whose market rose 71% partly because of a smooth transition to a new government. Worst: Finland, which was pummeled by real estate troubles. In many poorly performing markets, U.S. investors still made out because the dollar weakened.

All data are as of August 31 except stock market capitalization, which is as of June 30. Stock market data are from Morgan Stanley and economic data from J.P. Morgan. Data for Israel provided by Oppenheimer. U.S. GDP estimates were made by FORTUNE. *Estimate. †GNP.



CANADA	
Stock market cap.	$231 bil.
12 mo. return ($)	–8%
12 mo. return (local)	–4%
P/E	60
Est. '92 GDP growth	1.6%
Est. '93 GDP growth	3.1%
Inflation	2.4%

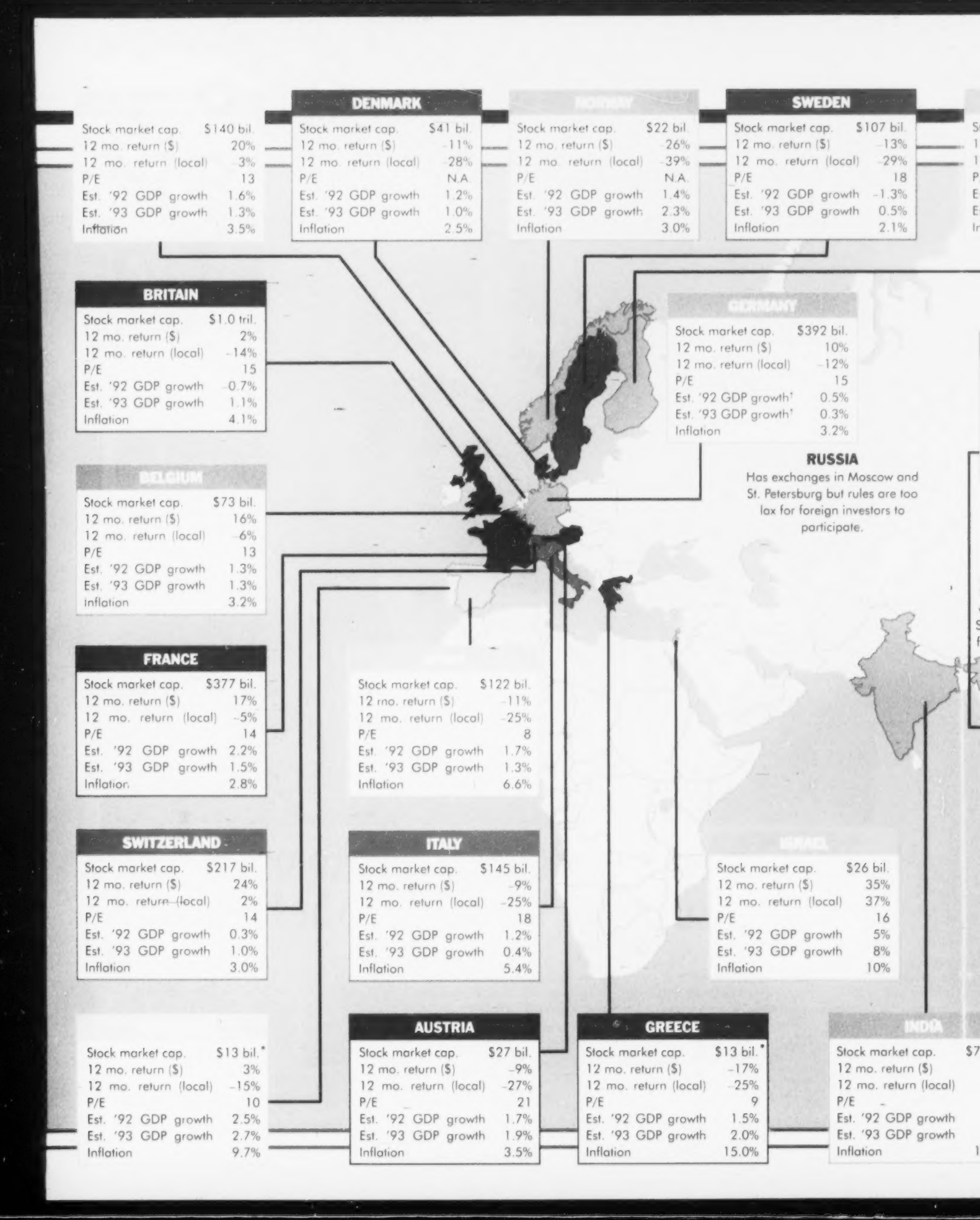
UNITED STATES	
Stock market cap.	$3.7 tril.
12 mo. return	5%
P/E	23
Est. '92 GDP growth	2.0%
Est. '93 GDP growth	3.0%
Inflation	3.0%

MEXICO	
Stock market cap.	$129 bil.*
12 mo. return ($)	19%
12 mo. return (local)	20%
P/E	11
Est. '92 GDP growth	3.0%
Est. '93 GDP growth	4.7%
Inflation	12.5%

CHILE	
Stock market cap.	$37 bil.*
12 mo. return ($)	19%
12 mo. return (local)	26%
P/E	21
Est. '92 GDP growth	7.0%
Est. '93 GDP growth	5.0%
Inflation	16.0%

BRAZIL	
Stock market cap.	$47 bil.*
12 mo. return ($)	21%
12 mo. return (local)	1,447%
P/E	15
Est. '92 GDP growth	2.0%
Est. '93 GDP growth	3.0%
Inflation	600.0%

ARGENTINA	
Stock market cap.	$20 bil.*
12 mo. return ($)	–8%
12 mo. return (local)	–8%
P/E	25
Est. '92 GDP growth	6.5%
Est. '93 GDP growth	4.5%
Inflation	20.0%



Stock market cap.	$140 bil.
12 mo. return ($)	20%
12 mo. return (local)	-3%
P/E	13
Est. '92 GDP growth	1.6%
Est. '93 GDP growth	1.3%
Inflation	3.5%

DENMARK

Stock market cap.	$41 bil.
12 mo. return ($)	-11%
12 mo. return (local)	-28%
P/E	N.A.
Est. '92 GDP growth	1.2%
Est. '93 GDP growth	1.0%
Inflation	2.5%

NORWAY

Stock market cap.	$22 bil.
12 mo. return ($)	-26%
12 mo. return (local)	-39%
P/E	N.A.
Est. '92 GDP growth	1.4%
Est. '93 GDP growth	2.3%
Inflation	3.0%

SWEDEN

Stock market cap.	$107 bil.
12 mo. return ($)	-13%
12 mo. return (local)	-29%
P/E	18
Est. '92 GDP growth	-1.3%
Est. '93 GDP growth	0.5%
Inflation	2.1%

BRITAIN

Stock market cap.	$1.0 tril.
12 mo. return ($)	2%
12 mo. return (local)	-14%
P/E	15
Est. '92 GDP growth	-0.7%
Est. '93 GDP growth	1.1%
Inflation	4.1%

GERMANY

Stock market cap.	$392 bil.
12 mo. return ($)	10%
12 mo. return (local)	-12%
P/E	15
Est. '92 GDP growth†	0.5%
Est. '93 GDP growth†	0.3%
Inflation	3.2%

RUSSIA

Has exchanges in Moscow and St. Petersburg but rules are too lax for foreign investors to participate.

BELGIUM

Stock market cap.	$73 bil.
12 mo. return ($)	16%
12 mo. return (local)	-6%
P/E	13
Est. '92 GDP growth	1.3%
Est. '93 GDP growth	1.3%
Inflation	3.2%

FRANCE

Stock market cap.	$377 bil.
12 mo. return ($)	17%
12 mo. return (local)	-5%
P/E	14
Est. '92 GDP growth	2.2%
Est. '93 GDP growth	1.5%
Inflation	2.8%

Stock market cap.	$122 bil.
12 mo. return ($)	-11%
12 mo. return (local)	-25%
P/E	8
Est. '92 GDP growth	1.7%
Est. '93 GDP growth	1.3%
Inflation	6.6%

SWITZERLAND

Stock market cap.	$217 bil.
12 mo. return ($)	24%
12 mo. return (local)	2%
P/E	14
Est. '92 GDP growth	0.3%
Est. '93 GDP growth	1.0%
Inflation	3.0%

ITALY

Stock market cap.	$145 bil.
12 mo. return ($)	-9%
12 mo. return (local)	-25%
P/E	18
Est. '92 GDP growth	1.2%
Est. '93 GDP growth	0.4%
Inflation	5.4%

ISRAEL

Stock market cap.	$26 bil.
12 mo. return ($)	35%
12 mo. return (local)	37%
P/E	16
Est. '92 GDP growth	5%
Est. '93 GDP growth	8%
Inflation	10%

Stock market cap.	$13 bil.*
12 mo. return ($)	3%
12 mo. return (local)	-15%
P/E	10
Est. '92 GDP growth	2.5%
Est. '93 GDP growth	2.7%
Inflation	9.7%

AUSTRIA

Stock market cap.	$27 bil.
12 mo. return ($)	-9%
12 mo. return (local)	-27%
P/E	21
Est. '92 GDP growth	1.7%
Est. '93 GDP growth	1.9%
Inflation	3.5%

GREECE

Stock market cap.	$13 bil.*
12 mo. return ($)	-17%
12 mo. return (local)	-25%
P/E	9
Est. '92 GDP growth	1.5%
Est. '93 GDP growth	2.0%
Inflation	15.0%

INDIA

Stock market cap.	$7
12 mo. return ($)	
12 mo. return (local)	
P/E	
Est. '92 GDP growth	
Est. '93 GDP growth	
Inflation	1

FINLAND	
k market cap.	$14 bil.
mo. return ($)	-36%
mo. return (local)	-41%
	N.A.
'92 GDP growth	-1.1%
'93 GDP growth	1.5%
ation	3.0%

JAPAN	
Stock market cap.	$2.1 tril.
12 mo. return ($)	-10%
12 mo. return (local)	-19%
P/E	38
Est. '92 GDP growth	2.3%
Est. '93 GDP growth	3.2%
Inflation	1.8%

TAIWAN	
Stock market cap.	$134 bil.*
12 mo. return ($)	-10%
12 mo. return (local)	-15%
P/E	29
Est. '92 GDP growth	7.5%
Est. '93 GDP growth	7.2%
Inflation	4.0%

THAILAND	
tock market cap.	$43 bil.*
2 mo. return ($)	14%
2 mo. return (local)	11%
/E	12
st. '92 GDP growth	6.8%
st. '93 GDP growth	7.0%
nflation	4.4%

SOUTH KOREA	
Stock market cap.	$92 bil.*
12 mo. return ($)	-29%
12 mo. return (local)	-24%
P/E	16
Est. '92 GDP growth	7.0%
Est. '93 GDP growth	7.0%
Inflation	9.5%

HONG KONG	
Stock market cap.	$180 bil.
12 mo. return ($)	39%
12 mo. return (local)	39%
P/E	15
Est. '92 GDP growth	5.5%
Est. '93 GDP growth	6.0%
Inflation	10.0%

CHINA

Has two exchanges, anghai and Shenzhen, th 40 listed companies. venteen are available to eigners through special shares.

Stock market cap.	$17 bil.*
12 mo. return ($)	71%
12 mo. return (local)	45%
P/E	12
Est. '92 GDP growth	4.0%
Est. '93 GDP growth	4.5%
Inflation	9.5%

MALAYSIA	
Stock market cap.	$78 bil.*
12 mo. return ($)	9%
12 mo. return (local)	-2%
P/E	18
Est. '92 GDP growth	8.0%
Est. '93 GDP growth	8.5%
Inflation	4.5%

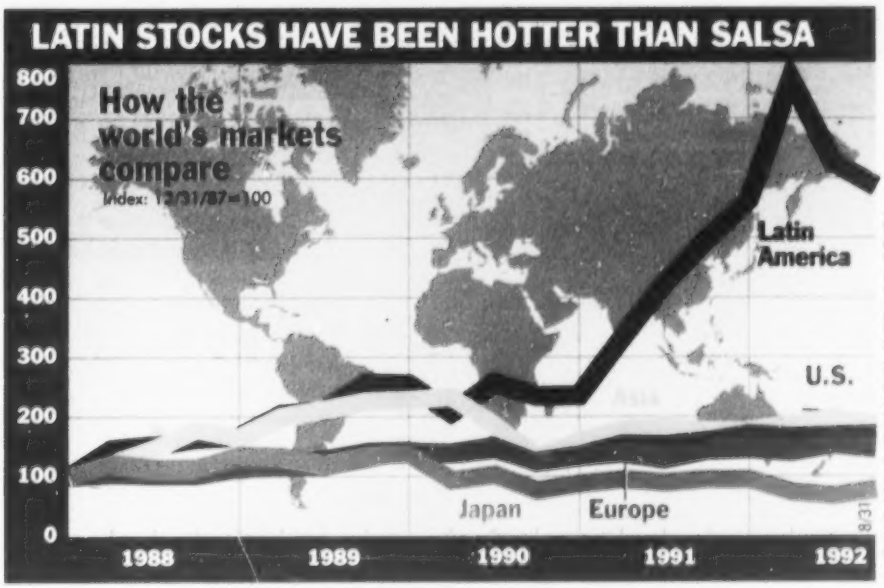
INDONESIA	
Stock market cap.	$12 bil.*
12 mo. return ($)	-5%
12 mo. return (local)	-1%
P/E	16
Est. '92 GDP growth	5.5%
Est. '93 GDP growth	5.5%
Inflation	7.5%

AUSTRALIA	
Stock market cap.	$144 bil.
12 mo. return ($)	-9%
12 mo. return (local)	0%
P/E	24
Est. '92 GDP growth	2.4%
Est. '93 GDP growth	3.9%
Inflation	0.4%

bil.	
4%	
6%	
29	
5%	
5%	
5%	

SINGAPORE	
Stock market cap.	$83 bil.
12 mo. return ($)	5%
12 mo. return (local)	-2%
P/E	16
Est. '92 GDP growth	5.7%
Est. '93 GDP growth	6.5%
Inflation	2.3%

NEW ZEALAND	
Stock market cap.	$16 bil.
12 mo. return ($)	-1%
12 mo. return (local)	5%
P/E	15
Est. '92 GDP growth	2.0%
Est. '93 GDP growth	2.3%
Inflation	2.3%



ings. What's more, you can pick up **Thai Capital Fund** at a 17% discount. Investors' confidence was shaken in India by banking and stock trading scandals. The government is likely to impose tighter controls, and share prices should get a boost now that the stock market has opened to foreign institutional investors. Individuals must still go through the **India Growth Fund** on the New York Stock Exchange.

Also attractive is Indonesia, where the government is working hard at reform. To cut corruption at its ports, the government hired a Swiss firm to conduct preshipment inspections. Shares trade at 16 times earnings, and investors can buy the **Indonesia Fund**, which trades at net asset value.

LATIN AMERICA

■ The professionals may rave about Asia, but no other region can beat Latin America for share price increases in recent years. Impressed with political and economic reforms, investors have driven stocks to spectacular heights. Last year, shares rose in dollar terms 403% in Argentina, 169% in Brazil, 120% in Mexico, and 105% in Chile. Says Baring analyst Terence Mahony: "Asia was discovered over ten years. Latin America happened in 18 months."

After such a lightning run, though, share prices have been much more mixed as investors catch their breath. Over the long term there could be more handsome gains. Investors are very confident about Mexico and cautiously confident about the others. Says Michael Bullock, chief investment officer of London's Morgan Grenfell Asset Management, which tends over $30 billion in assets: "Mexico is for real. It is so close to the U.S. and has progressed so far socially and economically. The people have seen tangible benefits. We'll have to wait and see about the other countries. Democracy is in its infancy, and the man on the street hasn't benefited much yet."

One positive sign is repatriation of money by Latin Americans themselves. Mahony of Baring estimates that Mexicans and Argentines have brought home some $5 billion to $10 billion from bank accounts abroad. Says he: "I've heard of one Swiss banker who's very unhappy."

More than any other region, Latin America is best approached through a closed-end fund that invests in a number of countries. There are several on the New York Stock Exchange, including **Latin America Equity**, **Latin American Discovery**, and **Latin America Investment**. For investors with strong stomachs, there are also closed-end funds for each country. Chilean shares have been the most profitable, moving up 23% this year. At 21 times earnings, though, they look a bit pricey. So do Argentine shares, which have fallen 35% this year but still trade at a rich 25 times earnings.

> "You've got to buy at the moment when there is no hope."

A better buy is Mexico, where shares have also been falling, partly over concern that Bill Clinton, if elected, might reject the North American Free Trade Agreement. But shares trade at a very reasonable 11 times earnings, and analysts are growing more confident that Clinton would approve some form of Nafta. Plus, analysts expect corporate profits to rise 20% to 25% in each of the next two years. For a diversified portfolio, go with **Mexico Fund**, which trades at an 11% discount.

The biggest crapshoot is Brazil, where the market plunged recently after corruption charges were leveled against President Fernando Collor. Impeachment proceedings have begun. Barton Biggs thinks the political crisis provides a buying opportunity. Says he: "You've got to buy markets at the darkest moment—and this is it. There is no glimmer of hope as to how they're going to get out of the mess they're in. Stocks sell at a 50% discount to book value, and many blue chips sell around six times expected 1992 earnings. At these valuations, I'm willing to go on faith." For the daring there are two funds: **Brazil** and **Brazilian Equity**, which both trade at about a 5% premium.

CANADA, AUSTRALIA, NEW ZEALAND

■ Mention these countries' names, and many investors will think of the troubling inflation they suffered in the 1980s. But the governments have cracked down and today can boast some of the lowest inflation rates in the world—a little over 2% in Canada and New Zealand and a stunning 0.4% in Australia. However, a lingering recession has kept stock prices down. That smells like a bargain to Gary Brinson, head of Brinson Partners in Chicago. He sees earnings in all three countries rising around 15% over the next year, helped by corporate cost cutting, which has increased profit margins. The most convenient entree is through **Alliance Global Canadian**, an open-end fund in New York, and **First Australia**, which trades on the American Stock Exchange at a 12% discount. There is no mutual fund for New Zealand, but a good alternative is **Telecom Corp. of New Zealand**, the national telephone company. The ADRs trade at a nice southerly P/E of 13. ■

SOURCES OF HELP

MAKING THE MOST OF YOUR BROKER

He's acting a lot friendlier. But in the meantime your broker's fees are climbing fast. The quickest way to improve your performance is to get costs down. ■ *by Tricia Welsh*

THE DAY of the stockbroker is gone. Today Wall Street houses are manned by financial planners, investment managers, and advisers. No, the people haven't changed, nor their jobs. But brokers would like you to think of them as less commission hungry and more trustworthy; hence the name change. That's all well and good, but if you cherish your money, never forget that brokers—or whatever they're called—are employed to generate income, from you. They do nicely at it too. In 1991 brokers' average paycheck was $98,401, up 24% from the previous year.

That doesn't mean you shouldn't trust the fellow on the other end of the phone, only that you need to exercise prudence. In other words, pay for what you need and no more. If all you require is someone to execute trades, then use a discount firm. You'll pay about half the commission a full-service firm charges (see table, next page). If you want more from a broker, you are going to have to pay for it. But how much more will depend on how smartly you shop.

Since you pay handsomely for research from a full-service firm, be sure to get your money's worth. Says Keith Wirtz, chief investment officer of Bank of America's Investment Management division: "The big firms are all pretty good at providing accurate, detailed, and timely information on companies so you can make your own decisions. But much of the idea generation comes from smaller firms with particular market niches." He especially likes Montgomery Securities in San Francisco for its guidance on emerging growth companies.

The smaller research staffs at regional houses have registered an impressive performance. Zacks Investment Research in Chicago conducts a quarterly study with the *Wall Street Journal* of the one- and five-year total returns of the major brokerage firm stock recommendations and compares them with market indices. In the previous six quarters, Raymond James, a regional firm in St. Petersburg, Florida, led the pack with one- and five-year returns of 72.5% and 228.3%, respectively, far ahead of the Dow's 17.7% and 64.4%. That compares with Dean Witter, the best of the national firms, with a 32.1% return for one year and 90.4% for five years.

But don't assume these figures mean a firm's advice is infallible. Last year one of Raymond James's top picks was Cascade International, a cosmetics and clothing retailer that crashed after its chairman mysteriously disappeared. Not only did James's brokerage clients lose out, but the firm's money management arm was Cascade's third-largest shareholder.

All full-service brokers, large and small, have been unusually innovative in devising new fees. Merrill Lynch gets the prize for the biggest: Every time you trade there, you'll pay $4.85 to cover postage, handling, and miscellaneous expenses. You will be pardoned for assuming your commissions paid for that stuff. Most other firms charge $2.50 to $3. Trade less than once a year on average, and you'll probably pay a $50 inactive account fee. But even if you trade regularly at Merrill, you'll owe $40 just to maintain your account. Discounters don't charge these fees, but they do assess IRA accounts about $25 annually, compared with $35 to $40 at most full-service firms, and up to $100 at guess where.

Fees really start to add up if you have either a central asset account or a wrap account. Merrill Lynch was the first to popularize the central asset account, for which it coined the term Cash Management Account. These one-stop-shop programs offer a money market fund, check writing

Traders at A.G. Edwards in St. Louis round up bonds that will be sold through the firm's 4,655 brokers.

PHOTOGRAPH BY ELI REICHMAN

privileges, a bank credit card, and the right to borrow up to 50% of your cash balance at very competitive rates. Convenience is their chief virtue. When you buy stocks, cash is automatically transferred from your money fund, and you don't have to worry about getting a check to your broker within five working days. Conversely, when you sell the shares the proceeds are automatically swept into the money fund.

Most central asset accounts require a minimum balance of $10,000, either in securities or cash, and fees run from $60 annually at A.G. Edwards to $100 at Merrill, Shearson, and Prudential, as well as some regional brokerages. Discount firms have smaller minimum balances and no annual fees. Pay attention to the rate your money earns in that money fund and compare it with similar funds. Higher fees can be offset by higher returns, and vice versa.

Wrap accounts, the new rage on Wall Street, come with even bigger minimums, typically $100,000. You hand over this sum, and the broker recommends a money manager to invest it according to your goals. There are no commission charges on trades, but you do pay a flat percentage of your total assets, split between your broker and the money manager. Most national firms charge around 3% annually for equity funds and 1.25% to 1.5% for bond funds—so you are laying out $1,500 to $3,000 a year in fees. (Fees tend to decline when the account tops $250,000.)

If your current money manager happens to be a trigger-happy trader, then the wrap account, which imposes a flat fee, might make sense. But for most folks, the 3% charge each year is too much—especially when you can get the same quality of professional management from a no-load growth stock mutual fund and pay only about 1.5%.

When a broker starts pushing his firm's in-house mutual funds, watch out. The five leading retail brokers manage 20% of the $1.5 trillion mutual fund assets. Unfortunately, a firm's dual role as manager and merchant can create a conflict of interest since brokers are usually offered a larger piece of the sales load to sell their firm's products. Before you let your broker talk

SIZING UP THE BROKERS

BROKERAGE FIRM	COMMISSIONS				FEES[2]			RESEARCH CAPABILITIES	
	500 shares at $20 per share	100 shares at $30 per share	One $10,000 Treasury bill[1]	Minimum commission	Transaction fee	Inactive account annual fee	IRA annual fee	Number of equity analysts	Number of companies followed
NATIONAL									
DEAN WITTER	$230	$84	$28	$50	$2.35	$50	$30	41	600
A.G. EDWARDS	$227	$83	$45	$42	$2.00	None	$30	31	457
KEMPER	$233	$85	$50	$50	$2.25	None	$35	23	350
MERRILL LYNCH	$238	$86	$50	None	$4.85	$40[4]	$100[6]	97	1,150
PAINE WEBBER	$242	$89	$35	None	$3.80	$50[5]	$35	52	615
PRUDENTIAL	$252	$90	$40	$55	$4.50	$50	$35	55	575
SHEARSON LEHMAN	$246	$83	$60	$50	$3.85	$50	$40	113	1,100
REGIONAL									
ADVEST Hartford	$223	$82	$50	$35	$3.50[3]	$20	$30	8	58
PIPER JAFFRAY Minneapolis	$236	$82	$45	None	None	None	$35	20	250
RAUSCHER PIERCE REFSNES Dallas	$237	$82	$50	$50	$2.50	None	$35	7	135
RAYMOND JAMES St. Petersburg, Florida	$218	$80	$100	$45	$3.00	$25	$35	18	187
SUTRO San Francisco	$221	$78	$50	$50	$2.25	None	$35	18	220
DISCOUNT									
CHARLES SCHWAB	$110	$55	$39	$39	None	None	$22	None	None
FIDELITY	$110	$54	$50	$39	None	None	$20	None	None
OLDE DISCOUNT	$80	$40	$40	$20	None	None	None	8	125
QUICK & REILLY	$84	$49	$50	$38	None	None	$25	None	None
SUPER-DISCOUNT									
PACIFIC BROKERAGE	$42	$25	$25	$25	$3.00	$25	$35	None	None
WATERHOUSE	$61	$35	$50	$35	None	None	$25	None	None

[1]Purchased at time of auction. [2]All fees are the maximum that can be levied. [3]Applies only to purchases. [4]Fee is levied on all accounts, regardless of activity. [5]After 18 months. [6]Fee is 0.2% of assets, from $35 to $100. [7]Except where noted, fees are for accounts with check-writing privileges and a credit card. [8]Account does not include a credit card. [9]Unless other-

you into one of his firm's offerings, ask to see five years of performance figures and then compare the fund with others that have similar investment objectives.

When brokers are too eager to make a sale and investors are too gullible, serious problems arise. The National Association of Securities Dealers—an industry group in Washington, D.C., reports that in 1991 the public filed 3,519 complaints against brokers and their firms, and a third of these involved amounts over $100,000, vs. only 5% in 1980. According to a report by the General Accounting Office last May, the most frequent allegations were misrepresentation of investment risks, negligence, and unauthorized trading.

To avoid costly and time consuming litigation, many brokerage firms now require customers to sign an agreement to resolve disputes through arbitration. You may have no choice but to sign one of these agreements in order to trade with certain firms. Last year a record high 4,150 cases were filed for arbitration.

But Michael Hanzman, an attorney specializing in securities complaints with the Miami firm of Zack Hanzman Ponce & Tucker, points out that arbitration has advantages over a jury trial. Complaints are resolved faster—the average arbitration case takes ten to 11 months to settle compared with two to three years for a trial—the process is less expensive than litigation, and arbitrators are usually experienced in the securities industry, unlike jurors. The results for the investor are good too. The GAO's study shows that 60% of complainants received an award through arbitration, and that it averaged 60% of their claim. Punitive damages, however, were less common, occurring in only 12% of cases.

All firms have some problems. The ones to avoid are those with an above-average number of investor complaints. So before you entrust your life savings to a broker, telephone the NASD's toll-free number—(800) 289-9999—to find out if either he or his firm has a history of such actions.

Do you get what you pay for when you use a full-service firm? Probably, so long as you really use all their services. But don't blindly hand over your money to your broker, and don't be afraid to question fees and ask for discounts if you feel you deserve them. Demand the best in service—how else will you get it? F

Number of fixed-income analysts	CENTRAL ASSET ACCOUNT Minimum opening balance	Annual fee[7]	Interest on $25,000 margin loan[9]	WRAP ACCOUNT Maximum annual fee: Equity account	Fixed-income account	NUMBER OF RETAIL OFFICES	NUMBER OF RETAIL BROKERS	TELEPHONE NUMBER
4	$10,000	$80	7.50%[10]	3.00%	1.50%	400	6,700	212-392-2855
8	$20,000	$60	6.00%	3.00%[13]	1.50%[13]	457	4,655	314-289-3000
14	$5,000	$65	7.00%	3.00%	1.25%	167	1,520	312-574-6000
35	$20,000	$100	7.38%[10]	3.00%	1.75%	501	12,152	800-MER-RILL
45	$10,000	$85	7.00%	2.80%	1.25%	279	4,900	800-950-5050
60	$10,000	$100	7.90%	3.00%	1.25%	300	6,000	800-367-8701
30	$10,000	$100	6.88%	3.00%	1.25%	419	8,930	800-233-7857
None	$5,000	$40	6.75%	2.75%	2.60%	87	570	800-243-8115[14]
2	$10,000	$85	6.50%	2.75%	2.75%	66	798	800-333-6000
None	$10,000	$100	7.00%	2.80%	1.30%	18	250	800-285-9788
3	$10,000	$100	6.50%	3.00%	3.00%	42	325	813-573-3800
1	$20,000	$100	6.75%	3.00%[13]	2.25%[13]	14	194	415-445-8500
None	$5,000	None	6.25%	N.A.	N.A.	171	2,598	800-435-4000
None	$5,000	None	6.00%	N.A.	N.A.	69	930	800-544-7272
2	$5,000	None	6.50%	N.A.	N.A.	180	300	800-USA-OLDE
None	$500	None[8]	5.75%	N.A.	N.A.	75	250	800-221-5220[15]
None	N.A.	N.A.	N.A.[11]	N.A.	N.A.	5	60	800-421-8395[16]
None	N.A.	N.A.	N.A.[12]	N.A.	N.A.	37	200	800-765-5185

rise noted, rate is tied to the broker's call rate, which was 5% in late September, plus a premium. [10]Interest rate is not tied to broker's call rate. [11]Margin loan is available on regular accounts at the broker's call rate plus1.25%. [12]Margin loan is available on regular accounts at the broker's call rate plus 1%. [13]Sum of two fees paid separately to the money manager and broker. [14]In Connecticut call 800-842-3807. [15]In New York call 212-747-5000. [16]In California call 213-939-1100.